

Spectrum of Doubly Ionized Praseodymium from 2107 Å to 10716 Å

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Wavelengths, relative intensity estimates, and classifications of the spectral lines of doubly ionized praseodymium (Pr III) in the range of 2107 to 10716 Å are given. About 4400 lines are included of which some 2500 are classified.

Key words: Line classifications; praseodymium; Pr III; spectrum.

The measurement and analysis of this spectrum was undertaken at Johns Hopkins University in 1958. The line-list containing wavelengths from 2025 to 10716 Å as well as the preliminary results of the analysis were given in the Johns Hopkins Spectroscopic Report No. 22 (1961). The interpretation of the data was continued at the National Bureau of Standards with the help of the theoretical work of R. Trees and G. Racah, who calculated the level structure of the $4f^3$ and $4f^25d$ configurations while the search for levels was in progress. The final results of the analysis of Pr III in this spectral range were published [1]¹ in 1963 in a paper that included a detailed description of the experimental methods utilizing the sliding-spark light-source. Trees' theoretical work on the interpretation of $4f^3$ and $4f^25d$ was subsequently published [2].

A second major advance in the analysis [3] was based on an extension of the observations into the vacuum ultraviolet to 821 Å. New high-lying configurations were found as well as many new levels of configurations of intermediate energy. A complete table of observed spectral lines from 821 to 2103 Å was included in [3]. The purpose of the present paper is to give, in a more accessible publication, the complete list of spectral lines and classifications that are in the Johns Hopkins Spectroscopic Report No. 22. The classifications of some strong resonance lines were unintentionally omitted in this report although the levels giving rise to them were reported. Many new classifications resulting from the extension of the analysis given in [3] are included.

Several additions and revisions of the $4f^3$ configuration were proposed by Crosswhite, Crosswhite, and

Judd [4]. They suggested that the level at 26979.66 cm^{-1} be replaced by 27178.80 cm^{-1} , but I was unable to find lines that determine such a level. They reject the level $a^2F_{5/2}$ at 34193.20 cm^{-1} , which has been found by them and by Trees [2] to be at an unlikely position. I accept this revision and agree that their proposed level at 31787.93 cm^{-1} for the $a^2F_{7/2}$ is well founded. Their proposed level for $b^2F_{7/2}$ at 53092.80 appears to be substantiated by the line-list but the $^2F_{5/2}$ at 54184.37 cm^{-1} does not. The new line classifications due to these revisions are included here.

The $4f^26d$ level at 103014.49 cm^{-1} given in [1] is now rejected on the basis of too few combinations.

Table 1 contains all the observed lines of Pr III from 2107 to 10716 Å as given in the Johns Hopkins report. In that report the wavelengths extend to 2025 Å but the region 2025–2107 Å is covered in [3] from stronger exposures. The measurements are wavelengths in air that have an estimated accuracy of ~ 0.003 Å except for lines that are blended or complex, usually as a result of hyperfine structure (*hfs*), which show an average deviation of ± 0.007 Å from predicted values. The experimental conditions under which the spectrograms were made are given in [1]. The intensities are visual estimates that are not intended to be quantitatively meaningful beyond indicating order of magnitude differences. Letters following intensity values characterize the lines as follows: *d*=a blend of two lines, *c*=complex blend of lines that is generally due to *hfs*, *h*=hazy, *w*=wide line, and **r* or **v*=strongest component of a *hfs* flag pattern where *r* means the pattern is shaded to the red and *v* means the pattern is shaded to the violet. For the *hfs* patterns that were partially resolved, all measured component lines are given and separated from other entries by spacing on both sides. A zero appears in the intensity column for these components and the total intensity of the pattern is given with the strongest line. The intensities are followed by

¹ Figures in brackets indicate the literature references at the end of this paper.

vacuum wavenumbers and line classifications. The classifications are denoted by the lower and upper energy level values (cm^{-1}) given to the units place, followed by a subscript denoting the J -value and a superscript degree symbol denoting odd parity. The reader is referred to [1] and [3] for the quantum mechanical level designations. Levels responsible for the stronger low excitation lines are all in [1].

There are approximately 4400 lines in table 1. About 2500 are classified and 47 are doubly classified. The latter are indicated by ditto marks in the wavelength column on the line where the second classification is given.

An analysis of the hfs of selected lines leading to a derivation of a value for the nuclear magnetic dipole moment was published by Reader and Sugar [5].

TABLE 1. *Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å*

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
10716.583	500	9328.78	15705 ^o _{9/2} – 25033 _{9/2}	8946.860	50	11174.04	
10324.591	500	9682.96	16763 ^o _{9/2} – 26446 _{7/2}	8908.698	100	11221.90	10859 ^o _{7/2} – 22080 _{7/2}
10301.585	500	9704.58	15705 ^o _{9/2} – 25409 _{7/2}	8896.292	50	11237.55	
10238.626	500	9764.26	13887 ^o _{7/2} – 23651 _{7/2}	8886.173	125	11250.35	25391 ^o _{13/2} – 36642 _{13/2}
10160.334	500	9839.50	10032 ^o _{9/2} – 19872 _{7/2}	8862.295	25	11280.66	10138 ^o _{5/2} – 21418 _{9/2}
10031.098	500	9966.27	15443 ^o _{7/2} – 25409 _{7/2}	8854.053	1000	11291.16	16089 ^o _{13/2} – 27380 _{11/2}
9991.156	500 w	10006.11	16089 ^o _{13/2} – 26095 _{11/2}	8771.383	500	11397.58	25244 ^o _{5/2} – 36642 _{13/2}
9975.121	25	10022.19	10138 ^o _{5/2} – 20160 _{3/2}	8763.533	5	11407.79	
9934.356	50	10063.32	14187 ^o _{5/2} – 24250 _{3/2}	8747.091	5	11429.23	
9902.522	25	10095.67		8739.587	5	11439.05	
9896.898	75	10101.41		8715.643	5 ch	11470.47	24357 ^o _{11/2} – 35828 _{9/2}
9876.898	75	10121.86	14187 ^o _{5/2} – 24309 _{5/2}	8713.719	45	11473.00	10138 ^o _{5/2} – 21611 _{5/2}
9806.368	175	10194.66	17409 ^o _{11/2} – 27604 _{9/2}	8711.375	5 ch	11476.09	17409 ^o _{11/2} – 28885 _{9/2}
9802.977	150	10198.19	10950 ^o _{3/2} – 21148 _{3/2}	8710.178	20	11477.67	9370 ^o _{3/2} – 20848 _{5/2}
9780.377	25	10221.75	19046 ^o _{5/2} – 29267 _{5/2}	8710.099	40	11477.77	9370 ^o _{3/2} – 20848 _{5/2}
9747.775	25	10255.94		8701.995	5	11488.46	
9730.690	25	10273.95	14187 ^o _{5/2} – 24461 _{5/2}	8691.581	500	11502.23	10032 ^o _{9/2} – 21535 _{9/2}
9728.583	25	10276.17	26921 ^o _{3/2} – 37197 _{3/2}	8684.659	5	11511.39	
9722.453	25	10282.65		8682.848	5 ch	11513.80	
9701.364	25 w	10305.00		8680.856	5	11516.44	
9687.968	25	10319.25	11761 ^o _{9/2} – 22080 _{7/2}	8676.563	40	11522.14	13887 ^o _{7/2} – 25409 _{7/2}
9652.829	50	10356.82	17095 ^o _{3/2} – 27452 _{5/2}	8675.642	10 w	11523.36	27597 ^o _{5/2} – 39120 _{3/2}
9639.380	25	10371.27		8669.733	35	11531.21	
9579.744	100	10435.83	10859 ^o _{7/2} – 21294 _{7/2}	8648.972	5	11558.89	
9549.767	175	10468.59	10950 ^o _{3/2} – 21418 _{5/2}	8646.141	5 ch	11562.68	
9528.923	50	10491.49	15443 ^o _{7/2} – 25934 _{5/2}	8622.810	5	11593.96	
9510.340	25	10511.99		8604.666	10	11618.41	
9506.444	25	10516.30		8602.737	5000 w	11621.01	17642 ^o _{15/2} – 29263 _{13/2}
9483.918	25	10541.27		8599.625	20	11625.22	
9454.861	50	10573.67	13887 ^o _{7/2} – 24461 _{5/2}	8597.267	20 w	11628.41	26921 ^o _{3/2} – 38549 _{1/2}
9446.238	75	10583.32	13887 ^o _{7/2} – 24470 _{7/2}	8595.191	45	11631.22	28101 ^o _{11/2} – 39732 _{11/2}
9436.644	25	10594.08		8594.010	5	11632.82	
9431.543	75	10599.81	28101 ^o _{11/2} – 38701 _{13/2}	8567.627	200 w	11668.64	10859 ^o _{7/2} – 22527 _{7/2}
9425.369	25	10606.75		8565.061	20	11672.13	
9388.563	175	10648.34		8559.180	5	11680.15	
9384.268	25	10653.21		8558.898	10	11680.54	11761 ^o _{9/2} – 23442 _{11/2}
9380.522	25	10657.46		8548.284	5	11695.04	15443 ^o _{7/2} – 27138 _{7/2}
9377.440	175	10660.97	10950 ^o _{3/2} – 21611 _{5/2}	8545.660	5	11698.63	
9373.616	25	10665.32		8537.207	30	11710.22	
9364.142	25	10676.11	10859 ^o _{7/2} – 21535 _{9/2}	8536.176	5	11711.63	
9358.412	25	10682.64		8519.499	45	11734.56	
9354.975	25	10686.57		8510.043	15	11747.59	14187 ^o _{5/2} – 25934 _{5/2}
9334.332	250	10710.20	10138 ^o _{5/2} – 20848 _{5/2}	8509.940	5	11747.74	
9320.538	125	10726.05		8508.503	20	11749.72	
9317.622	25	10729.41		8506.159	10	11752.96	
9306.848	75	10741.83	15705 ^o _{9/2} – 26446 _{7/2}	8505.483	5	11753.89	24886 ^o _{7/2} – 36640 _{7/2}
9285.932	75	10766.02	11761 ^o _{9/2} – 22527 _{7/2}	8497.003	25	11765.62	
9265.561	250 w	10789.69	9370 ^o _{3/2} – 20160 _{3/2}	8494.986	100 w	11768.42	28101 ^o _{11/2} – 39870 _{9/2}
9256.314	25	10800.47		8491.706	5	11772.96	
9227.553	25	10834.14					
9222.320	200	10840.28	16763 ^o _{9/2} – 27604 _{9/2}	8488.340	5 * v	11777.63	
9212.852	25	10851.42		8488.236	0	11777.77	
9177.403	50	10893.34					
9152.880	50	10922.52	28101 ^o _{11/2} – 39024 _{9/2}	8487.106	5	11779.34	
9131.899	250	10947.62	12494 ^o _{11/2} – 23442 _{11/2}	8485.151	5	11782.06	
9122.931	25	10958.38		8476.896	5	11793.53	
9099.984	250	10986.01	11761 ^o _{9/2} – 22747 _{9/2}	8450.239	35	11830.73	
9099.240	25	10986.91		8449.472	10	11831.81	
9085.497	75	11003.53	15443 ^o _{7/2} – 26446 _{7/2}	8446.766	5	11835.60	
9077.404	50	11013.34		8443.060	25 d	11840.79	17095 ^o _{3/2} – 28936 _{3/2}
9067.563	25	11025.30		8441.530	15	11842.94	
9042.441	50	11055.93		8429.298	10	11860.12	
9035.622	50	11064.27		8424.640	10	11866.68	
9016.269	50	11088.02		8419.285	10	11874.23	
8960.753	50	11156.71	10138 ^o _{5/2} – 21294 _{7/2}	8409.097	100	11888.62	10859 ^o _{7/2} – 22747 _{9/2}

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
8408.000	45	11890.17	11761 _{9/2} ^o - 23651 _{7/2}	7948.162	5	12578.07	
8407.654	45	11890.66		7945.279	50 w	12582.63	10950 _{3/2} ^o - 23532 _{5/2}
8406.821	30	11891.83	23245 _{5/2} ^o - 35137 _{3/2}	7942.757	10	12586.62	
8401.665	25 w	11899.13	15705 _{9/2} ^o - 27604 _{9/2}				
8390.132	30	11915.49	19872 _{7/2} ^o - 31787 _{7/2}	7942.396	0	12587.20	
8376.509	25	11934.87		7942.244	0	12587.44	
8370.968	45 w	11942.77	10138 _{5/2} ^o - 22080 _{7/2}	7942.066	5 *r	12587.72	
8361.251	0	11956.65		7938.648	20 *v	12593.14	
8361.159	0	11956.78		7936.555	20 ch	12596.46	
8361.060	5 *r	11956.92	16763 _{9/2} ^o - 28720 _{9/2}	7928.888	50 w	12608.64	27597 _{5/2} ^o - 40205 _{3/2}
				7928.524	20 ch	12609.22	
8358.863	20	11960.06		7925.132	15	12614.62	
8354.157	5	11966.80	2893 _{13/2} ^o - 14859 _{11/2}	7923.164	100	12617.75	23245 _{5/2} ^o - 35863 _{3/2}
8344.130	5	11981.18		7920.218	25 ch	12622.44	
8327.805	15	12004.67		7914.003	1000	12632.36	2893 _{13/2} ^o - 15525 _{11/2}
8299.083	5 ch	12046.21	23091 _{3/2} ^o - 35137 _{3/2}	7912.754	25 ch	12634.35	
8298.298	25 d	12047.35	13887 _{7/2} ^o - 25934 _{5/2}	7906.690	15 ch	12644.04	
8273.902	5	12082.87	11761 _{9/2} ^o - 23844 _{9/2}	7897.694	25 ch	12658.44	
8261.945	40 w	12100.36	10950 _{3/2} ^o - 23050 _{3/2}	7897.090	400	12659.41	4453 _{15/2} ^o - 17113 _{13/2}
8253.860	5 w	12112.21		7893.277	10 ch	12665.52	
8250.236	15	12117.53		7888.117	1000	12673.81	10859 _{7/2} ^o - 23532 _{5/2}
8244.887	250 w	12125.40	24886 _{7/2} ^o - 37011 _{5/2}	7881.065	5	12685.15	
8235.326	150 w	12139.47	10138 _{5/2} ^o - 22277 _{3/2}	7877.105	25 ch	12691.53	
8225.270	5	12154.31		7876.567	15 ch	12692.39	
8220.910	5 w	12160.76	15443 _{7/2} ^o - 27604 _{9/2}	7872.176	5 w	12699.47	
8213.095	5	12172.33		7866.139	1500 w	12709.22	11761 _{9/2} ^o - 24470 _{7/2}
8207.059	5	12181.28		7861.384	15 ch	12716.91	
8195.139	35 w	12199.00	26921 _{3/2} ^o - 39120 _{3/2}	7854.917	40 ch	12727.38	
8188.716	45	12208.57	19046 _{5/2} ^o - 31254 _{7/2}	7854.057	15	12728.77	
8188.008	25	12209.63		7853.969	20	12728.91	
8175.888	40	12227.73		7852.643	35 ch	12731.06	
8175.737	25 ch	12227.95		7846.766	20 ch	12740.60	
8169.825	20	12236.80		7846.420	35 ch	12741.16	
8167.341	40	12240.52	9370 _{3/2} ^o - 21611 _{5/2}	7844.934	40 ch	12743.57	
8138.343	100	12284.14	24357 _{11/2} ^o - 36642 _{13/2}	7827.442	45 w	12772.05	23091 _{3/2} ^o - 35863 _{3/2}
8132.700	5	12292.66		7826.870	5	12772.98	
8132.233	400	12293.37	12494 _{11/2} ^o - 24788 _{9/2}	7825.445	25 ch	12775.31	
8119.537	250	12312.59	24357 _{11/2} ^o - 36670 _{11/2}	7824.397	45 ch	12777.02	
8115.302	40	12319.01		7823.410	5	12778.63	26446 _{7/2} ^o - 39225 _{9/2}
8110.557	35	12326.22		7822.260	45 w	12780.51	
8106.282	5	12332.72		7821.769	40 ch	12781.31	
8103.686	10	12336.67		7820.682	45 ch	12783.09	
8102.904	3000	12337.86	26447 _{17/2} ^o - 38785 _{15/2}	7818.796	30 ch	12786.17	
8099.532	5	12343.00		7817.050	25 ch	12789.03	
8097.762	5	12345.70		7814.736	200 w	12792.82	10859 _{7/2} ^o - 23651 _{7/2}
8096.238	5	12348.02		7812.626	35 ch	12796.27	
8069.175	25	12389.43		7811.067	30 ch	12798.83	
8069.067	35	12389.60		7809.814	40 ch	12800.88	
8068.120	20	12391.05		7809.581	25 ch	12801.26	
8057.686	25 ch	12407.10		7809.017	40	12802.19	27138 _{7/2} ^o - 39940 _{7/2}
8045.090	15	12426.52		7808.489	30 ch	12803.05	
8038.512	15	12436.69		7805.781	10 ch	12807.49	
8014.775	5	12473.53		7803.311	10	12811.55	
8010.282	15	12480.52		7794.339	40 ch	12826.29	
8002.158	15	12493.19		7791.042	5 ch	12831.72	
8001.144	250	12494.78	10032 _{9/2} ^o - 22527 _{7/2}	7788.737	20	12835.52	
7998.272	5	12499.26		7785.830	20	12840.31	
7996.805	45 w	12501.56	27597 _{5/2} ^o - 40098 _{5/2}	7785.229	5	12841.30	
7987.363	20 ch	12516.33		7781.985	3000	12846.66	0 _{9/2} ^o - 12846 _{9/2}
7977.824	10 ch	12531.30		7780.139	45 ch	12849.70	
7972.748	1000 w	12539.28	12494 _{11/2} ^o - 25033 _{9/2}	7778.741	5	12852.01	
7960.000	15	12559.36	13887 _{7/2} ^o - 26446 _{7/2}	7768.147	25 ch	12869.54	
7958.940	5 w	12561.03	2893 _{13/2} ^o - 15454 _{13/2}	7767.454	5	12870.69	
7957.044	50 w	12564.03	26921 _{3/2} ^o - 39485 _{1/2}	7766.439	35 ch	12872.37	

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
7763.839	5 <i>ch</i>	12876.68		7463.962	100	13394.02	25391 ^o _{13/2} — 38785 _{15/2}
7761.848	15	12879.99		7463.612	50	13394.65	10138 ^o _{5/2} — 23532 _{5/2}
7761.025	5 <i>ch</i>	12881.35		7457.107	25	13406.33	23245 ^o _{5/2} — 36652 _{5/2}
7760.439	5 <i>ch</i>	12882.32		7455.436	10 <i>w</i>	13409.34	10032 ^o _{9/2} — 23442 _{11/2}
7757.014	15 <i>ch</i>	12888.01		7453.044	5	13413.64	
7755.480	100 <i>w</i>	12890.56	26979 ^o _{9/2} — 39870 _{9/2}	7445.700	15 <i>w</i>	13426.87	27597 ^o _{5/2} — 41023 _{7/2}
7754.310	500	12892.51		7432.137	5	13451.38	
7751.088	5	12897.87		7429.548	5	13456.06	
7746.088	10 <i>w</i>	12906.19		7429.053	4000	13456.96	25244 ^o _{15/2} — 38701 _{13/2}
7745.593	250 <i>w</i>	12907.02	9370 ^o _{3/2} — 22277 _{3/2}	7426.475	2000	13461.63	1398 ^o _{11/2} — 14859 _{11/2}
7742.335	500	12912.45	10138 ^o _{5/2} — 23050 _{3/2}	7423.371	5	13467.26	
7739.842	35 <i>ch</i>	12916.61		7399.339	45 <i>w</i>	13511.00	10950 ^o _{3/2} — 24461 _{5/2}
7735.856	10 <i>ch</i>	12923.26		7397.849	30	13513.72	10138 ^o _{5/2} — 23651 _{7/2}
7735.377	45 <i>ch</i>	12924.06		7383.959	20	13539.14	
7734.282	20 <i>ch</i>	12925.89		7382.884	50	13541.11	25244 ^o _{15/2} — 38785 _{15/2}
7728.076	5	12936.27		7369.965	10 <i>w</i>	13564.85	13887 ^o _{7/2} — 27452 _{5/2}
7726.869	10 <i>ch</i>	12938.29		7364.462	5	13574.98	
7724.191	30	12942.78		7355.515	100 <i>w</i>	13591.50	23091 ^o _{3/2} — 36683 _{1/2}
7723.751	20	12943.51		7353.504	20	13595.21	
7720.897	20 <i>ch</i>	12948.30		7353.433	15	13595.34	18693 ^o _{1/2} — 32288 _{3/2}
7706.298	5 <i>ch</i>	12972.83		7350.607	300 <i>w</i>	13600.57	12494 ^o _{11/2} — 26095 _{11/2}
7702.747	5	12978.81		7349.749	200	13602.16	10859 ^o _{7/2} — 24461 _{5/2}
7698.760	35	12985.53	10859 ^o _{7/2} — 23844 _{9/2}	7344.533	50	13611.82	10859 ^o _{7/2} — 24470 _{7/2}
7697.188	35 <i>ch</i>	12988.18		7343.700	350	13613.36	
7693.653	5 <i>ch</i>	12994.15	40098 _{5/2} — 53092 _{7/2}	7340.692	150 <i>w</i>	13618.94	10032 ^o _{9/2} — 23651 _{7/2}
7687.126	45 <i>ch</i>	13005.18		7325.038	40	13648.05	11761 ^o _{9/2} — 25409 _{7/2}
7683.874	45 <i>ch</i>	13010.69		7288.395	20 <i>w</i>	13716.66	13887 ^o _{7/2} — 27604 _{9/2}
7682.481	5	13013.05					
7682.219	5	13013.49		7285.594	0	13721.94	
7680.976	15 <i>ch</i>	13015.60	15705 ^o _{9/2} — 28720 _{9/2}	7285.445	5 * <i>r</i>	13722.22	
7674.646	200 <i>w</i>	13026.33	11761 ^o _{9/2} — 24788 _{9/2}				
7670.654	100 <i>w</i>	13033.11	24886 ^o _{7/2} — 37919 _{7/2}	7275.103	35 <i>w</i>	13741.72	16763 ^o _{9/2} — 30505 _{11/2}
7664.180	15	13044.12		7262.316	100 <i>w</i>	13765.92	23245 ^o _{5/2} — 37011 _{5/2}
7660.701	10 <i>ch</i>	13050.04		7240.208	250	13807.95	24886 ^o _{7/2} — 38694 _{5/2}
7648.345	100 <i>w</i>	13071.13	16763 ^o _{9/2} — 29835 _{9/2}	7238.263	100 <i>w</i>	13811.66	10032 ^o _{9/2} — 23844 _{9/2}
7642.559	30	13081.02	4453 ^o _{15/2} — 17534 _{15/2}	7236.060	25	13815.87	25409 _{7/2} — 39225 _{9/2}
7638.600	5	13087.80		7231.625	250	13824.34	15443 ^o _{7/2} — 29267 _{5/2}
7635.068	50	13093.86		7220.532	5 <i>w</i>	13845.58	
7625.633	100 <i>w</i>	13110.06	18693 ^o _{1/2} — 31803 _{1/2}	7211.785	5	13862.37	
7622.487	5	13115.47	31787 ^o _{7/2} — 44903 _{5/2}	7204.546	5	13876.30	
7600.563	5	13153.30		7192.133	5 * <i>r</i>	13900.25	
7596.410	300	13160.49	41023 _{7/2} — 54184 _{5/2}	7181.813	30 <i>w</i>	13920.22	23091 ^o _{3/2} — 37011 _{5/2}
7589.308	5	13172.81		7177.308	5	13928.96	10859 ^o _{7/2} — 24788 _{9/2}
7588.638	150 <i>w</i>	13173.97	16089 ^o _{13/2} — 29263 _{13/2}	7167.742	5	13947.55	
7586.772	15	13177.21	26921 ^o _{3/2} — 40098 _{5/2}	7165.640	100 <i>w</i>	13951.64	23245 ^o _{5/2} — 37197 _{3/2}
7583.768	10	13182.43		7137.956	25	14005.75	25934 ^o _{5/2} — 39940 ^o _{7/2}
7563.450	45 <i>w</i>	13217.84	23465 ^o _{1/2} — 36683 _{1/2}	7131.684	15	14018.07	31787 ^o _{7/2} — 45805 _{9/2}
7549.740	25	13241.84	14859 _{11/2} — 28101 _{11/2}	7112.528	500	14055.82	1398 ^o _{11/2} — 15454 _{13/2}
7549.201	100 <i>w</i>	13242.79	19046 ^o _{5/2} — 32288 _{3/2}	7101.777	15	14077.10	
7544.530	15	13250.99	13887 ^o _{7/2} — 27138 _{7/2}	7087.260	35	14105.94	23091 ^o _{3/2} — 37197 _{3/2}
7532.455	45	13272.23	11761 ^o _{9/2} — 25033 _{9/2}	7083.993	100	14112.44	10138 ^o _{5/2} — 24250 _{3/2}
7529.617	5 <i>ch</i>	13277.23	15443 ^o _{7/2} — 28720 _{9/2}	7079.559	20	14121.28	
7529.113	500	13278.12	26447 ^o _{7/2} — 39725 _{15/2}	7076.618	4500	14127.15	1398 ^o _{11/2} — 15525 _{11/2}
7525.617	15 <i>w</i>	13284.29	26921 ^o _{3/2} — 40205 _{3/2}	7075.213	100	14129.95	15705 ^o _{9/2} — 29835 _{9/2}
7523.765	10	13287.56		7073.662	20	14133.05	12846 ^o _{9/2} — 26979 _{9/2}
7516.454	30 * <i>r</i>	13300.48		7059.098	25	14162.21	9370 ^o _{3/2} — 23532 _{5/2}
7514.644	40	13303.69		7054.715	75 <i>w</i>	14171.01	10138 ^o _{5/2} — 24309 _{5/2}
7513.381	30 <i>ch</i>	13305.92		7052.803	5	14174.85	10859 ^o _{7/2} — 25033 _{9/2}
7511.171	100	13309.84	25391 ^o _{13/2} — 38701 _{13/2}	7036.262	5	14208.17	
7506.378	5 <i>h</i>	13318.34		7033.317	20	14214.12	
7503.860	45	13322.81		7030.388	5000	14220.04	2893 ^o _{13/2} — 17113 _{13/2}
7498.289	5	13332.70		7027.463	20	14225.96	
7493.200	200	13341.76	20856 ^o _{3/2} — 34198 _{1/2}	7019.013	25 <i>w</i>	14243.09	
7487.397	250	13352.10	0 ^o _{9/2} — 13352 _{11/2}	6979.830	100	14323.05	10138 ^o _{5/2} — 24461 _{5/2}
7479.000	5 <i>w</i>	13367.09		6975.118	5	14332.72	10138 ^o _{5/2} — 24470 _{7/2}

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
6974.730	5	14333.52	11761 [°] _{9/2} — 26095 [°] _{11/2}	"			11761 [°] _{9/2} — 27138 [°] _{7/2}
6974.365	25	14334.27	25391 [°] _{13/2} — 39725 [°] _{15/2}	6500.038	600	15380.28	13887 [°] _{7/2} — 29267 [°] _{5/2}
6970.965	500	14341.26	25391 [°] _{13/2} — 39732 [°] _{11/2}	6490.908	1	15401.91	
6969.818	25	14343.62	24357 [°] _{11/2} — 38701 [°] _{13/2}	6467.264	7	15458.22	23091 [°] _{3/2} — 38549 [°] _{1/2}
6951.751	35	14380.90		6461.813	1	15471.26	
6934.551	150 w	14416.57	16089 [°] _{13/2} — 30505 [°] _{11/2}	6460.605	20	15474.15	19046 [°] _{5/2} — 34520 [°] _{5/2}
6924.466	20	14437.56	24788 [°] _{9/2} — 39225 [°] _{9/2}	6455.568	6	15486.22	44679 [°] _{7/2} — 60166 [°] _{9/2}
6924.278	75 w	14437.96	10032 [°] _{9/2} — 24470 [°] _{7/2}	6455.132	1	15487.27	
6915.546	5	14456.19		6452.503	2 w	15493.58	
6913.042	15	14461.42		6447.773	5	15504.95	
6910.144	7000	14467.49	4453 [°] _{15/2} — 18921 [°] _{15/2}	6447.731	4	15505.05	18693 [°] _{1/2} — 34198 [°] _{1/2}
6907.278	15 w	14473.49		6444.742	300	15512.24	24357 [°] _{11/2} — 39870 [°] _{9/2}
6903.522	500	14481.36	25244 [°] _{15/2} — 39725 [°] _{15/2}	6439.230	50	15525.52	0 [°] _{9/2} — 15525 [°] _{11/2}
6899.059	1000	14490.73	16763 [°] _{9/2} — 31254 [°] _{7/2}	6429.257	300	15549.60	15705 [°] _{9/2} — 31254 [°] _{7/2}
6881.201	4	14528.34		6426.604	1 w	15556.02	
6879.942	1	14531.00	25409 [°] _{7/2} — 39940 [°] _{7/2}	6419.299	7	15573.72	23651 [°] _{7/2} — 39225 [°] _{9/2}
6870.640	60	14550.67	10859 [°] _{7/2} — 25409 [°] _{7/2}	6413.450	80	15587.92	10859 [°] _{7/2} — 26446 [°] _{7/2}
6869.661	4	14552.74		6385.931	15 w	15655.10	23465 [°] _{1/2} — 39120 [°] _{3/2}
6866.801	1000	14558.80	0 [°] _{9/2} — 14558 [°] _{9/2}	6382.347	3	15663.89	
6863.932	4	14564.89		6361.649	100	15714.85	1398 [°] _{11/2} — 17113 [°] _{13/2}
6857.301	200	14578.97	26447 [°] _{17/2} — 41026 [°] _{17/2}	6352.997	7	15736.25	
6854.630	100	14584.66		6333.967	9 w	15783.53	
6827.965	200	14641.61	2893 [°] _{13/2} — 17534 [°] _{15/2}	6330.948	8 w	15791.06	
6816.456	40 d	14666.33	24357 [°] _{11/2} — 39024 [°] _{9/2}	6328.643	10	15796.81	10138 [°] _{5/2} — 25934 [°] _{5/2}
6807.087	1	14686.52		6327.087	3	15800.69	
6797.121	40 w	14708.05	17095 [°] _{3/2} — 31803 [°] _{1/2}	6317.507	2 w	15824.65	
6775.444	1	14755.11	10032 [°] _{9/2} — 24788 [°] _{9/2}	6310.361	200	15842.57	11761 [°] _{9/2} — 27604 [°] _{9/2}
6754.632	20 w	14800.57	15705 [°] _{9/2} — 30505 [°] _{11/2}	6299.431	2	15870.06	
6745.943	4	14819.63	48401 [°] _{3/2} — 63221 [°] _{5/2}	6297.660	5	15874.52	23245 [°] _{3/2} — 39120 [°] _{3/2}
6739.814	9 w	14833.11	13887 [°] _{7/2} — 28720 [°] _{9/2}	6289.834	9 w	15894.27	
6727.627	100	14859.98	0 [°] _{9/2} — 14859 [°] _{11/2}	6283.469	1 w	15910.38	
6723.298	1	14869.55		6273.483	2 w	15935.70	
6718.592	20 w	14879.96	9370 [°] _{3/2} — 24250 [°] _{3/2}	6271.171	6	15941.58	
6716.016	50	14885.67	12494 [°] _{11/2} — 27380 [°] _{11/2}	6259.996	4	15970.03	
6709.510	3	14900.10		6258.837	9	15972.99	
6707.145	1	14905.36		6257.250	2	15977.04	
6706.705	600	14906.34	4453 [°] _{15/2} — 19360 [°] _{13/2}	6255.510	9 w	15981.49	
6703.914	2	14912.54		6250.163	2 w	15995.16	
6692.241	50 w	14938.55	9370 [°] _{3/2} — 24309 [°] _{5/2}	6247.854	2	16001.07	
6682.778	1	14959.71		6245.226	1 w	16007.80	
6671.812	2	14984.29		6241.656	8 w	16016.96	
6671.611	10	14984.75	10950 [°] _{3/2} — 25934 [°] _{5/2}	6240.620	1 w	16019.62	84410 [°] _{9/2} — 100430 [°] _{9/2}
6671.161	1 w	14985.76		6238.925	3 w	16023.97	
				6237.319	80	16028.10	2893 [°] _{13/2} — 18921 [°] _{15/2}
6666.068	0	14997.21		6237.052	40	16028.78	23091 [°] _{3/2} — 39120 [°] _{3/2}
6665.890	1 * _r	14997.61		6234.107	5	16036.35	
				6232.217	4 w	16041.22	
6664.381	10 w	15001.00	10032 [°] _{9/2} — 25033 [°] _{9/2}	6231.031	5 w	16044.27	
6643.688	1	15047.73		6228.853	4	16049.88	
6629.237	4	15080.53	14187 [°] _{5/2} — 29267 [°] _{5/2}	6225.212	5 w	16059.27	
6627.550	40	15084.37	23465 [°] _{1/2} — 38549 [°] _{1/2}	6224.029	4 w	16062.32	10032 [°] _{9/2} — 26095 [°] _{11/2}
6624.824	30	15090.57	9370 [°] _{3/2} — 24461 [°] _{5/2}	6222.841	1	16065.39	
6616.459	100	15109.65	12494 [°] _{11/2} — 27604 [°] _{9/2}	6212.666	30	16091.70	19046 [°] _{5/2} — 35137 [°] _{3/2}
6603.194	1 w	15140.00		6207.510	1	16105.06	
6593.603	7	15162.03		6207.140	9 w	16106.02	
6581.639	1	15189.59		6199.086	1	16126.95	
6580.039	60	15193.28	17095 [°] _{3/2} — 32288 [°] _{3/2}	6198.208	4	16129.23	
6578.901	200	15195.91	4453 [°] _{15/2} — 19649 [°] _{17/2}	6197.140	5 d	16132.01	
6564.777	1	15228.60		6195.628	2000	16135.95	0 [°] _{9/2} — 16135 [°] _{7/2}
6546.298	30	15271.59	10138 [°] _{5/2} — 25409 [°] _{7/2}	6195.053	100	16137.45	24886 [°] _{7/2} — 41023 [°] _{7/2}
6514.555	1	15346.00		6193.056	4	16142.65	
6513.538	10	15348.40	2893 [°] _{13/2} — 18241 [°] _{11/2}	6188.298	9	16155.06	20856 [°] _{3/2} — 37011 [°] _{5/2}
6502.746	1	15373.87		6179.500	1	16178.06	
6502.246	10	15375.05	24357 [°] _{11/2} — 39732 [°] _{11/2}	6178.400	3 d	16180.94	
6501.489	300	15376.84	10032 [°] _{9/2} — 25409 [°] _{7/2}	6175.253	1	16189.19	

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
6171.561	1 w	16198.87		5910.576	1 w	16914.14	
6162.806	3	16221.89		5895.445	80	16957.55	31787 [°] _{7/2} — 48745 _{5/2}
6161.224	1500 w	16226.05	12494 [°] _{11/2} — 28720 _{9/2}	5894.680	3	16959.75	23245 [°] _{5/2} — 40205 _{3/2}
6160.244	5000	16228.63	1398 [°] _{11/2} — 17627 _{9/2}	5892.757	9 w	16965.28	
6151.140	5	16252.65		5890.948	1	16970.49	
6140.993	7	16279.51	10859 [°] _{7/2} — 27138 _{7/2}	5889.013	50	16976.07	
6138.373	5 w	16286.45		5886.279	9	16983.95	
6137.474	2	16288.84	23651 _{7/2} — 39940 [°] _{7/2}	5885.315	10	16986.74	
6130.896	1	16306.32		5884.532	8	16989.00	
6129.970	9	16308.78	10138 [°] _{5/2} — 26446 _{7/2}	5884.001	2	16990.53	
6117.968	80	16340.77	20856 [°] _{3/2} — 37197 _{3/2}	5882.893	8 v	16993.73	
				5882.023	3	16996.24	
6099.837	0	16389.34		5878.303	30	17007.00	23091 [°] _{3/2} — 40098 _{5/2}
6099.767	0	16389.53		5874.176	3	17018.95	
6099.664	0	16389.81		5873.971	1	17019.54	
6099.544	0	16390.13		5873.149	2	17021.92	
6099.396	80 * _r	16390.53	12494 [°] _{11/2} — 28885 _{9/2}	5872.532	6	17023.71	
				5869.908	15 w	17031.32	
6092.545	5	16408.96		5864.004	15 w	17048.47	
6090.637	3 w	16414.10	10032 [°] _{9/2} — 26446 _{7/2}	5854.761	8	17075.38	
6090.016	9000 w	16415.77	2893 [°] _{13/2} — 19308 _{11/2}	5854.058	40 w	17077.43	
6087.510	10	16422.53		5852.223	20	17082.79	27597 [°] _{5/2} — 44679 _{7/2}
6087.167	6	16423.46		5851.012	7	17086.32	
6087.032	2	16423.82		5849.573	3	17090.53	
6083.651	1	16432.95		5849.015	4 d	17092.16	
6071.086	900	16466.96	2893 [°] _{13/2} — 19360 _{13/2}	5848.588	4	17093.41	
6070.343	1 w	16468.97		5847.358	15 w	17097.00	
6067.047	2	16477.92	22747 _{9/2} — 39225 [°] _{9/2}	5844.413	1500	17105.62	10032 [°] _{9/2} — 27138 _{7/2}
6053.007	1500 w	16516.14	0 [°] _{9/2} — 16516 _{7/2}	5840.069	6	17118.34	
6046.664	9	16533.47		5839.601	5 d	17119.71	
6041.476	1	16547.66		5831.098	1	17144.68	22080 _{7/2} — 39225 [°] _{9/2}
6033.552	10 w	16569.40		5830.641	1	17146.02	
6024.829	9	16593.39	10859 [°] _{7/2} — 27452 _{5/2}	5821.681	1	17172.41	
6020.122	6	16606.36		5820.019	10 w	17177.31	
6012.238	1	16628.14		5814.807	2	17192.71	
6010.571	4	16632.75		5813.989	2	17195.13	
5998.944	900 w	16664.98	1398 [°] _{11/2} — 18063 _{9/2}	5800.402	2	17235.41	
5995.922	4	16673.38		5798.036	1	17242.44	
5993.756	6	16679.41		5793.341	1	17256.41	
5992.861	1	16681.90		5792.587	8 d	17258.66	
5986.628	3	16699.27		5776.232	1	17307.52	
5978.194	5	16722.83		5774.885	8	17311.56	
5974.073	7	16734.36		5773.978	15	17314.28	10138 [°] _{5/2} — 27452 _{5/2}
5970.361	8	16744.77		5773.079	8	17316.98	
5970.208	9	16745.20	10859 [°] _{7/2} — 27604 _{9/2}	5772.765	7 w	17317.92	
5963.375	1	16764.38		5768.260	1 w	17331.44	
5962.325	50	16767.34		5765.266	600	17340.44	12494 [°] _{11/2} — 29835 _{9/2}
5961.934	9	16768.44	12494 [°] _{11/2} — 29263 _{13/2}	5763.648	3	17345.31	
5960.473	2	16772.55		5762.957	15	17347.39	10032 [°] _{9/2} — 27380 _{11/2}
5959.759	6	16774.55		5761.258	4	17352.51	
5958.529	5	16778.02		5756.407	20	17367.13	13887 [°] _{7/2} — 31254 _{7/2}
5956.052	7000 w	16784.99	4453 [°] _{15/2} — 21238 _{13/2}	5755.063	2	17371.19	
5955.377	4	16786.90		5740.793	1	17414.37	
5953.572	5	16791.99		5737.416	5	17424.62	17095 [°] _{3/2} — 34520 _{5/2}
5953.150	5	16793.18		5737.242	1	17425.14	
5952.974	6	16793.67		5736.059	5 w	17428.74	
5947.983	200	16807.77	2893 [°] _{13/2} — 19700 _{11/2}	5725.299	3	17461.49	
5944.901	5	16816.48		5721.016	1	17474.56	
5942.681	8	16822.76		5720.663	2	17475.64	
5936.038	4	16841.59		5715.706	5 d	17490.80	
5935.469	80	16843.20	1398 [°] _{11/2} — 18241 _{11/2}	5706.423	2 w	17519.25	
5932.121	40	16852.71	23245 [°] _{5/2} — 40098 _{5/2}	5697.824	1	17545.69	
5927.028	50	16867.19		5686.399	3	17580.94	
5914.052	7	16904.20		5682.090	9	17594.28	19046 [°] _{5/2} — 36640 _{7/2}
5913.193	8 w	16906.65		5678.240	2 d	17606.20	19046 [°] _{5/2} — 36652 _{5/2}

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å — Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
5671.536	80	17627.02	0 _{9/2} ^o — 17627 _{9/2}	5390.065	6	18547.49	
5650.374	4	17693.03	20856 _{3/2} ^o — 38549 _{1/2}	5368.596	6	18621.67	
5647.645	1	17701.58		5368.138	1	18623.25	
5646.799	150	17704.23	28101 _{11/2} ^o — 45805 _{9/2}	5367.358	7	18625.96	
5644.462	5	17711.56		5361.637	4	18645.83	21294 _{7/2} ^o — 39940 _{7/2} ^o
5640.005	9 _w	17725.56		5349.591	5	18687.82	10032 _{9/2} ^o — 28720 _{9/2} ^o
5626.194	8	17769.07	45807 _{5/2} ^o — 63576 _{5/2} ^o	5340.015	1500	18721.33	4453 _{15/2} ^o — 23175 _{13/2} ^o
5623.368	10	17778.00	23245 _{5/2} ^o — 41023 _{7/2} ^o	5332.978	3	18746.03	
5618.734	1	17792.66		5326.691	10	18768.16	
5613.201	9 _w	17810.20		5318.156	4	18798.28	10138 _{5/2} ^o — 28936 _{3/2} ^o
5604.572	9	17837.62	20856 _{3/2} ^o — 38694 _{5/2} ^o	5299.993	1500	18862.70	2893 _{13/2} ^o — 21755 _{11/2} ^o
5601.160	6	17848.49		5297.769	4	18870.62	
5598.329	9 _w	17857.51		5294.096	10	18883.71	
5597.615	8	17859.79	22080 _{7/2} ^o — 39940 _{7/2} ^o	5286.891	3	18909.45	
5594.853	6 _d	17868.61		5284.697	1500	18917.30	1398 _{11/2} ^o — 20315 _{9/2} ^o
5594.291	20	17870.40		5283.627	6 _w	18921.13	
5590.764	9	17881.68		5282.483	4	18925.23	
5588.891	4	17887.67		5264.940	10	18988.28	
5581.735	100	17910.60	1398 _{11/2} ^o — 19308 _{11/2} ^o	5264.443	1000	18990.08	0 _{9/2} ^o — 18990 _{7/2} ^o
5581.221	4	17912.25		5262.242	3	18998.02	
5579.526	9	17917.69		5261.678	150	19000.06	17642 _{15/2} ^o — 36642 _{13/2} ^o
5575.969	5	17929.12		5259.920	6	19006.41	
5575.807	1	17929.64		5244.860	1	19060.98	
5574.689	10 _w	17933.24		5243.898	1	19064.48	16763 _{9/2} ^o — 35828 _{9/2} ^o
5573.801	9	17936.10		5240.509	10	19076.81	15443 _{7/2} ^o — 34520 _{3/2} ^o
5572.974	4	17938.76		5208.510	150	19194.00	4453 _{15/2} ^o — 23647 _{13/2} ^o
5571.149	1	17944.64		5203.902	9	19211.00	
5565.840	8	17961.75	1398 _{11/2} ^o — 19360 _{13/2} ^o	5193.018	2	19251.26	
5564.573	60	17965.84	19046 _{5/2} ^o — 37011 _{5/2} ^o	5191.307	10 _w	19257.61	
5564.140	9 _w	17967.24		5175.232	3 _d	19317.42	
5560.290	10 _w	17979.68		5174.714	30	19319.36	15705 _{9/2} ^o — 35024 _{7/2} ^o
5559.599	10	17981.91	26921 _{3/2} ^o — 44903 _{5/2} ^o	"			50658 _{13/2} ^o — 69978 _{11/2} ^o
5557.227	8	17989.59	18693 _{1/2} ^o — 36683 _{1/2} ^o	5166.811	15	19348.91	20856 _{3/2} ^o — 40205 _{3/2} ^o
5555.231	3	17996.05		5165.682	5	19353.14	19872 _{7/2} ^o — 39225 _{9/2} ^o
5554.487	2	17998.46		5152.234	3	19403.65	
5553.591	4	18001.37		5128.608	15	19493.04	11761 _{9/2} ^o — 31254 _{7/2} ^o
5550.579	80	18011.14	12494 _{11/2} ^o — 30505 _{11/2} ^o	5127.034	10	19499.02	
5541.012	20	18042.23		5105.557	1	19581.04	15443 _{7/2} ^o — 35024 _{7/2} ^o
5534.524	40	18063.38	0 _{9/2} ^o — 18063 _{9/2} ^o	5102.432	9	19593.04	
5521.392	1	18106.34		5089.234	1	19643.85	
5514.788	1	18128.03		5088.056	10	19648.39	19046 _{5/2} ^o — 38694 _{5/2} ^o
5510.332	15	18142.69		5076.243	70	19694.12	26979 _{9/2} ^o — 46673 _{7/2} ^o
5509.856	3	18144.25		5069.779	2	19719.23	
5508.637	5	18148.27		5030.679	2 _d	19872.49	
5502.873	8	18167.28		4967.972	2	20123.32	15705 _{9/2} ^o — 35828 _{9/2} ^o
5501.530	1	18171.71		4964.638	60	20136.84	1398 _{11/2} ^o — 21535 _{9/2} ^o
5491.548	1 _c	18204.74		4929.116	80	20281.95	2893 _{13/2} ^o — 23175 _{13/2} ^o
5480.470	8	18241.54	0 _{9/2} ^o — 18241 _{11/2} ^o	4927.478	1	20288.69	
5474.764	20	18260.55	16763 _{9/2} ^o — 35024 _{7/2} ^o	4921.956	2 _w	20311.46	
5462.198	20	18302.56	1398 _{11/2} ^o — 19700 _{11/2} ^o	4920.936	80	20315.67	0 _{9/2} ^o — 20315 _{9/2} ^o
5461.783	2	18303.95	39870 _{9/2} ^o — 58174 _{9/2} ^o	4910.820	90	20357.51	1398 _{11/2} ^o — 21755 _{11/2} ^o
5454.356	2	18328.88		4890.259	6	20443.11	
5454.226	2	18329.31		4883.171	1	20472.78	10032 _{9/2} ^o — 30505 _{11/2} ^o
5449.367	50	18345.66	2893 _{13/2} ^o — 21238 _{13/2} ^o	4870.747	3 _w	20525.00	
5430.670	10	18408.82	10859 _{7/2} ^o — 29267 _{5/2} ^o	4866.319	3	20543.67	
5427.700	100	18418.89	17409 _{11/2} ^o — 35828 _{9/2} ^o	4865.025	60	20549.14	2893 _{13/2} ^o — 23442 _{11/2} ^o
5418.946	3	18448.64		4864.111	60	20553.00	16089 _{13/2} ^o — 36642 _{13/2} ^o
5414.852	1	18462.59		4857.386	600	20581.46	16089 _{13/2} ^o — 36670 _{11/2} ^o
5414.402	1	18464.13		4845.319	90	20632.71	13887 _{7/2} ^o — 34520 _{3/2} ^o
				4832.682	2 _c	20686.66	39732 _{11/2} ^o — 60419 _{11/2} ^o
5410.752	1* _v	18476.58		4827.196	1	20710.17	
5410.637	0	18476.98		4821.798	1 _w	20733.36	
				4820.797	1 _w	20737.66	
5410.130	5 _w	18478.71		4816.856	8 _w	20754.63	2893 _{13/2} ^o — 23647 _{13/2} ^o
5402.726	8	18504.03	18693 _{1/2} ^o — 37197 _{3/2} ^o	4810.201	1	20783.34	

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
4808.237	8d	20791.83	18693 [°] _{1/2} — 39485 _{1/2}	4650.609	9 *v	21496.54	13887 [°] _{7/2} — 35384 _{5/2}
4805.313	9w	20804.48	27597 [°] _{5/2} — 48401 _{3/2}	4650.542	0	21496.85	
4803.430	5	20812.64		4648.619	7w	21505.74	36652 _{5/2} — 58158 [°] _{7/2}
4803.015	2	20814.44		4647.247	30w	21512.09	18693 [°] _{1/2} — 40205 _{3/2}
4801.927	2w	20819.15		4644.335	30	21525.58	4453 [°] _{15/2} — 25979 _{15/2}
4798.642	1w	20833.41		4642.272	30w	21535.15	0 [°] _{9/2} — 21535 _{9/2}
4795.151	1	20848.57		4639.809	1	21546.58	
4791.145	3d	20866.00		4639.461	1	21548.19	
4783.831	3	20897.91		4634.022	3	21573.48	
4777.880	2w	20923.93		4625.185	600w	21614.70	17409 [°] _{11/2} — 39024 _{9/2}
4775.295	450w	20935.26	15705 [°] _{9/2} — 36640 _{7/2}	4614.683	8	21663.89	
4772.546	1	20947.32		4612.022	450w	21676.39	14187 [°] _{5/2} — 35863 _{3/2}
4771.827	300w	20950.48	14187 [°] _{5/2} — 35137 _{3/2}	4609.566	5	21687.94	
4767.986	1	20967.35		4606.164	3w	21703.96	
4766.987	3	20971.75	12494 [°] _{11/2} — 33466 _{11/2}	4603.164	9	21718.10	38701 _{13/2} — 60419 [°] _{11/2}
4766.907	2	20972.10		4603.072	9	21718.54	
4765.357	1	20978.92		4600.864	20	21728.96	18211 _{5/2} — 39940 [°] _{7/2}
4765.295	1	20979.19		4597.449	7	21745.10	
4764.856	1	20981.13		4595.187	6	21755.80	0 [°] _{9/2} — 21755 _{11/2}
4763.775	1	20985.89		4594.110	6	21760.90	
4758.046	1 *v	21011.15		4593.758	5	21762.57	
4757.974	0	21011.47		4591.369	1w	21773.90	
4757.912	0	21011.75		4591.293	1w	21774.26	
4749.540	2w	21048.78		4590.562	8	21777.72	44903 _{5/2} — 66681 _{5/2}
4748.700	40	21052.51	19046 [°] _{5/2} — 40098 _{5/2}	4587.462	4	21792.44	
4747.110	300	21059.56	17642 [°] _{15/2} — 38701 _{13/2}	4587.251	2	21793.44	
4743.051	3 *v	21077.58	50658 _{13/2} — 71736 [°] _{11/2}	4586.983	1w	21794.71	
4742.953	0	21078.02		4584.823	8	21804.98	
4742.863	0	21078.42		4583.420	9	21811.66	
4742.779	0	21078.79		4583.284	2	21812.30	
4742.697	0	21079.15		4582.952	2w	21813.88	
4742.631	0	21079.45		4579.207	7w	21831.72	
4729.749	20w	21136.86	13887 [°] _{7/2} — 35024 _{7/2}	4577.880	60	21838.05	31254 _{7/2} — 53092 [°] _{7/2}
4728.211	270	21143.73	17642 [°] _{15/2} — 38785 _{15/2}	4575.964	2	21847.20	
4727.184	60	21148.33	27597 [°] _{5/2} — 48745 _{5/2}	4575.642	1w	21848.73	
4726.863	2	21149.76		4573.794	1	21857.56	78463 [°] _{7/2} — 100321 _{9/2}
4725.553	300w	21155.63	16763 [°] _{9/2} — 37919 _{7/2}	4572.792	5	21862.35	
4724.675	8w	21159.56	19046 [°] _{5/2} — 40205 _{3/2}	4572.617	2	21863.19	
4723.039	4	21166.89		4572.456	4	21863.96	
4718.709	3	21186.31		4570.774	7	21872.00	45807 _{5/2} — 67679 [°] _{7/2}
4716.359	9w	21196.87	15443 [°] _{7/2} — 36640 _{7/2}	4570.621	6	21872.73	
4713.700	600w	21208.82	15443 [°] _{7/2} — 36652 _{5/2}	4570.515	8	21873.24	45805 _{9/2} — 67679 [°] _{7/2}
4713.171	4	21211.20		4555.718	4	21944.29	
4710.825	15w	21221.77	10032 [°] _{9/2} — 31254 _{7/2}	4555.451	1w	21945.57	
4706.083	9	21243.15	45805 _{9/2} — 67049 [°] _{9/2}	4555.214	9w	21946.71	
4705.756	4w	21244.63		4554.797	2	21948.72	
4704.920	6	21248.40		4554.625	1w	21949.55	
4700.352	2	21269.05		4551.852	3	21962.92	
4699.447	2	21273.15	50227 _{3/2} — 71501 [°] _{3/2}	4551.784	1	21963.25	
4699.273	1	21273.93		4551.688	4	21963.71	44903 _{5/2} — 66867 [°] _{3/2}
4692.024	3	21306.80		4549.096	6	21976.23	
4689.646	1	21317.60		4548.965	9w	21976.86	
4685.590	2	21336.06		4548.770	3	21977.80	19046 [°] _{5/2} — 41023 _{7/2}
4685.022	9	21338.64	10950 [°] _{3/2} — 32288 _{3/2}	4547.798	8	21982.50	
4684.057	8	21343.04		4547.261	5	21985.10	
4668.806	2d	21412.76		4540.496	6	22017.85	
4664.197	9	21433.92		4539.973	3w	22020.39	
4661.137	9w	21447.99	24357 [°] _{11/2} — 45805 _{9/2}	4539.056	30	22024.84	17095 _{3/2} — 39120 _{3/2}
4654.159	120	21480.14	26921 [°] _{3/2} — 48401 _{3/2}	4535.130	25w	22043.90	1398 [°] _{11/2} — 23442 _{11/2}
4652.717	15	21486.80	39870 _{9/2} — 61357 _{9/2}	4531.418	4	22061.96	
				4526.914	25	22083.91	17642 [°] _{15/2} — 39725 _{15/2}
				4525.145	5w	22092.54	
				4519.367	2	22120.79	45844 _{3/2} — 67965 _{3/2}
				4513.408	8w	22149.99	

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å – Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
4508.753	9	22172.86	44679 _{7/2} – 66852 _{7/2}	4437.733	9 w	22527.70	0 _{9/2} – 22527 _{7/2}
4504.787	9	22192.38		4437.068	8	22531.08	
4504.311	7 c	22194.73	15705 _{9/2} – 37919 _{7/2}	4436.493	3	22534.00	44679 _{7/2} – 67240 _{7/2}
4502.077	7	22205.74		4436.190	5	22535.54	
4501.095	3	22210.59		4435.168	3 d	22540.73	
4500.839	9 w	22211.85		4434.807	9	22542.57	
4500.311	300 w	22214.45	16763 _{9/2} – 39024 _{9/2}	4434.200	1	22545.65	16089 _{13/2} – 38701 _{13/2}
4500.008	20	22215.95		4434.134	1	22545.99	
4499.844	20	22216.76		4433.678	8	22548.31	
4491.257	3	22259.24		4433.530	30	22549.06	
4491.054	90	22260.24	44679 _{7/2} – 66943 _{5/2}	4433.083	20 w	22551.33	27597 _{5/2} – 50227 _{3/2}
4490.497	7	22263.00		4432.510	4 w	22554.25	
4490.025	4 w	22265.34	17409 _{11/2} – 39732 _{11/2}	4431.846	120	22557.63	16089 _{13/2} – 38701 _{13/2}
4489.763	3	22266.64		4431.498	2	22559.40	
4489.601	6 w	22267.45		4431.297	9 w	22560.42	
4489.465	6 w	22268.12		4430.995	1	22561.96	
4489.026	8 w	22270.30	39024 _{9/2} – 61357 _{9/2}	4430.188	5	22566.07	16089 _{13/2} – 38701 _{13/2}
4487.894	9	22275.92		4429.748	6	22568.31	
4487.334	7	22278.70		4428.024	7 d	22577.10	
4486.143	3 w	22284.61		4426.785	4 w	22583.42	
4482.857	6 w	22300.95	44679 _{7/2} – 67049 _{9/2}	4426.607	8 w	22584.32	27597 _{5/2} – 50227 _{3/2}
4482.291	9 w	22303.76		4425.999	8	22587.43	
4481.678	7 w	22306.81		4424.336	3 d	22595.92	
4479.006	3	22320.12		4424.074	5 w	22597.25	
4478.359	7	22323.34	17095 _{3/2} – 39485 _{1/2}	4423.191	7	22601.77	16089 _{13/2} – 38701 _{13/2}
4476.476	5 d	22332.73		4421.105	120	22612.43	
4474.270	20 w	22343.74		4418.815	6 w	22624.15	
4469.183	60	22369.18		4418.284	5 w	22626.87	
4468.481	4	22372.69	9370 _{3/2} – 31803 _{1/2}	4417.543	1 d	22630.66	16089 _{13/2} – 38701 _{13/2}
4468.382	6	22373.19		4417.336	4 d	22631.72	
4465.630	6 w	22386.97		4416.982	3 w	22633.54	
4465.064	90	22389.81		4416.772	7	22634.61	
4463.838	3 c	22395.96	1398 _{11/2} – 23844 _{9/2}	4416.270	1 w	22637.19	45807 _{5/2} – 68492 _{7/2}
4463.438	6 w	22397.97		4416.003	5	22638.55	
4462.797	15	22401.19		4415.843	5	22639.37	
4462.534	25	22402.51		4414.667	1 w	22645.41	
4461.814	200	22406.12	17409 _{11/2} – 39870 _{9/2}	4413.138	4	22653.25	45805 _{9/2} – 68492 _{7/2}
4461.019	120	22410.11		4411.671	8 w	22660.78	
4460.550	25	22412.47		4410.783	2	22665.35	
4460.250	8 w	22413.98		4408.422	5	22677.48	
4459.846	6	22416.01	14187 _{5/2} – 36652 _{5/2}	4407.897	7	22680.19	16089 _{13/2} – 38785 _{15/2}
4459.746	3	22416.51		4407.504	7 w	22682.21	
4459.209	8	22419.21		4407.017	7 w	22684.71	
4459.134	8	22419.59		4406.916	3	22685.23	
4458.509	3	22422.73	15443 _{7/2} – 37919 _{7/2}	4406.777	3	22685.95	45807 _{5/2} – 68492 _{7/2}
4457.595	30	22427.33		4406.735	4	22686.17	
4457.080	8 w	22429.92		4406.690	5	22686.40	
4456.462	9 w	22433.03		4406.299	5	22688.41	
4456.318	15	22433.75	44903 _{5/2} – 67395 _{5/2}	4406.066	6	22689.61	16089 _{13/2} – 38785 _{15/2}
4456.144	7 w	22434.63		4404.907	60 w	22695.58	
4454.687	20	22441.97		4404.706	120	22696.62	
4453.842	7 w	22446.22		4404.308	1	22698.67	
4451.001	120 w	22460.55	14187 _{5/2} – 36652 _{5/2}	4404.171	3	22699.37	16516 _{7/2} – 39225 _{9/2}
4450.137	180 w	22464.91		4403.914	4 w	22700.70	
4447.930	150 w	22476.06		4403.427	2 w	22703.21	
4447.269	7	22479.40		4403.032	3 w	22705.24	
4445.926	6	22486.19	44903 _{5/2} – 67395 _{5/2}	4402.883	7 w	22706.01	16516 _{7/2} – 39225 _{9/2}
4445.760	20	22487.03		4402.474	7 w	22708.12	
4445.023	5	22490.76		4402.228	3	22709.39	
4444.797	25	22491.90		4402.114	2	22709.98	
4440.669	8	22512.81	13887 _{7/2} – 36652 _{5/2}	4401.070	4	22715.37	44679 _{7/2} – 67395 _{5/2}
4440.581	7 h	22513.26		4400.979	6	22715.84	
4438.995	2 w	22521.30		4400.561	20	22717.99	
4438.659	9 w	22523.00		4398.695	5 w	22727.63	
4438.372	6	22524.46		4391.533	30 w	22764.70	13887 _{7/2} – 36652 _{5/2}

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
4389.822	0	22773.57		4344.662	5 w	23010.28	14187 _{5/2} ^o — 37197 _{3/2}
4389.759	8 *r	22773.90	35384 _{5/2} — 58158 _{7/2} ^o	4342.159	6	23023.55	
4389.510	5	22775.19		4341.569	25	23026.67	
4389.386	4	22775.83	44903 _{5/2} — 67679 _{7/2} ^o	4340.236	6	23033.75	
4389.103	3 d	22777.30		4340.029	3	23034.84	
4388.800	3 w	22778.87		4334.697	9 w	23063.18	11761 _{9/2} ^o — 34825 _{7/2}
4388.712	2	22779.33		4332.204	4	23076.45	
4388.525	5 w	22780.30		4331.541	20	23079.98	
4387.352	5 d	22786.39		4331.204	4	23081.78	
4386.845	7	22789.02		4330.990	5	23082.92	
4386.561	9	22790.50		4330.854	3	23083.64	
4386.501	9	22790.81	48745 _{5/2} — 71536 _{5/2} ^o	4330.569	30	23085.16	
4386.290	5	22791.91		4329.187	2 w	23092.53	
4384.651	3	22800.43		4328.539	4 c	23095.99	
4384.546	1	22800.97	10859 _{7/2} ^o — 33659 _{5/2} ^o	4328.061	9	23098.54	
4381.920	3 c	22814.64		4327.355	5	23102.31	
4381.586	7	22816.38		4325.897	4	23110.09	17095 _{3/2} ^o — 40205 _{3/2}
4381.468	90	22816.99		4325.682	2 w	23111.24	
4380.920	3 w	22819.84		4325.479	25	23112.33	
4380.702	3 w	22820.98		4324.852	4	23115.68	
4380.470	4	22822.19		4324.736	2	23116.30	
4379.820	90	22825.57	39732 _{11/2} — 62558 _{11/2} ^o	4324.483	4 w	23117.65	
4378.990	8	22829.90		4323.607	25	23122.33	
4377.991	4	22835.11		4323.244	10 w	23124.28	13887 _{7/2} ^o — 37011 _{5/2}
4377.747	20	22836.38		4322.305	30	23129.30	
4374.538	7	22853.13		4321.603	1	23133.06	
4374.101	6	22855.42		4321.530	2	23133.45	40098 _{5/2} — 63232 _{7/2} ^o
4373.581	1	22858.14		4321.442	3	23133.92	45844 _{3/2} ^o — 68978 _{5/2} ^o
4372.026	9	22866.27		4321.298	7	23134.69	48401 _{3/2} — 71536 _{5/2} ^o
4370.600	2 w	22873.73		4320.762	4 d	23137.56	
4370.462	3	22874.45		4320.625	5 w	23138.29	
4370.164	2 w	22876.01		4319.812	3	23142.65	
4369.604	8	22878.94		4319.268	3	23145.56	
4367.640	7 d	22889.23		4317.612	4 w	23154.44	
4367.313	9	22890.94		4316.659	3 w	23159.55	
4364.516	6	22905.61		4316.343	90	23161.25	
4364.394	5	22906.25		4315.359	1	23166.53	
4364.127	3 c	22907.65		4314.355	4	23171.92	
4363.644	2	22910.19		4312.151	3	23183.76	
4362.397	6 w	22916.74		4311.789	9 w	23185.71	
4359.603	4	22931.42		4308.745	9 w	23202.09	2893 _{13/2} ^o — 26095 _{11/2} ^o
4358.381	6 d	22937.85		4306.978	9 w	23211.61	41023 _{7/2} — 64235 _{9/2} ^o
4357.944	7	22940.15		4306.512	5 d	23214.12	
4357.727	4	22941.29		4305.510	9 w	23219.52	
4357.114	7	22944.52		4305.081	4	23221.83	
4356.864	5 d	22945.84		4304.796	6	23223.37	
4356.477	30	22947.88		4304.460	8 c	23225.18	
4356.020	1	22950.28		4304.049	9	23227.40	
4355.578	10	22952.61	39725 _{15/2} — 62678 _{13/2} ^o	4303.939	2	23228.00	
4354.586	4 w	22957.84		4303.017	30	23232.97	48745 _{5/2} — 71978 _{7/2} ^o
4354.278	60	22959.47		4302.081	1	23238.03	
4354.139	8	22960.20		4301.935	8	23238.82	
4353.090	5	22965.73		4301.733	90	23239.91	
4352.152	8	22970.68		4300.779	6	23245.06	
4351.141	5 w	22976.02		4300.170	1	23248.35	10950 _{3/2} ^o — 34198 _{1/2}
4350.065	4	22981.70		4299.874	5	23249.95	
4349.222	20	22986.16		4298.427	8	23257.78	
4348.638	2	22989.24		4298.274	90	23258.61	
4348.061	9	22992.29		4298.096	9	23259.57	
4347.637	9	22994.54	45807 _{5/2} — 68801 _{7/2} ^o	4297.505	6	23262.77	11761 _{9/2} ^o — 35024 _{7/2}
4346.744	4	22999.26	44679 _{7/2} — 67679 _{7/2} ^o	4297.421	4	23263.23	
4346.347	25	23001.36		4296.937	8	23265.85	
4345.172	7	23007.58		4295.473	9	23273.78	
				4294.226	6 w	23280.53	
				4294.063	8 w	23281.42	

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
4292.100	30	23292.07		4248.457	5	23531.33	
4291.884	30	23293.24		4248.186	10 <i>d</i>	23532.83	
4290.585	9 <i>d</i>	23300.29		4248.021	8	23533.75	52026 _{3/2} - 75560 _{5/2}
4290.121	4	23302.81		4247.039	30	23539.19	38701 _{13/2} - 62240 _{11/2}
4289.720	8	23304.99		4246.878	8 <i>w</i>	23540.08	
4288.767	10	23310.17		4246.061	10 <i>d</i>	23544.61	
4288.442	10 <i>w</i>	23311.93		4245.713	10 <i>w</i>	23546.54	
4288.306	4	23312.67		4245.500	15	23547.72	
4287.989	5	23314.40		4245.011	5	23550.43	
4287.739	4	23315.75		4244.508	30	23553.23	
4287.117	30	23319.14	15705 _{9/2} - 39024 _{9/2}	4243.695	4	23557.74	
4286.461	10	23322.71		4242.250	20	23565.76	
4286.322	120	23323.46		4241.500	2	23569.93	
4284.705	2	23332.26	45805 _{9/2} - 69138 _{9/2}	4241.314	25	23570.96	
4284.419	40	23333.82	12494 _{11/2} - 35828 _{9/2}	4240.649	8	23574.66	
4282.865	10	23342.29		4239.552	2	23580.76	15443 _{7/2} - 39024 _{9/2}
4282.306	7	23345.33		4237.177	3	23593.98	
4282.044	6	23346.76		4234.824	25	23607.08	
4281.426	9 <i>w</i>	23350.13		4232.576	7 <i>d</i>	23619.62	
4281.160	4	23351.58		4231.821	1	23623.84	45807 _{5/2} - 69431 _{7/2}
4279.720	8 <i>d</i>	23359.44		4231.454	180	23625.89	
4279.257	5	23361.97	39870 _{9/2} - 63232 _{7/2}	4231.169	4	23627.48	
4278.978	6 <i>d</i>	23363.49		4229.724	6 <i>d</i>	23635.55	1398 _{11/2} - 25033 _{9/2}
				4229.488	30	23636.87	16089 _{3/2} - 39725 _{5/2}
4278.696	5 * <i>v</i>	23365.03		4229.330	20	23637.75	34520 _{5/2} - 58158 _{7/2}
4278.643	0	23365.32		4228.234	30	23643.88	16089 _{3/2} - 39732 _{11/2}
4278.596	0	23365.58		4226.817	7 <i>d</i>	23651.80	44679 _{7/2} - 68331 _{7/2}
				4225.142	30	23661.18	10859 _{7/2} - 34520 _{5/2}
4277.847	10 <i>w</i>	23369.67		4224.353	6	23665.60	
4276.825	9 <i>w</i>	23375.25		4219.448	120	23693.11	
4276.039	6	23379.55		4219.134	4 <i>w</i>	23694.87	
4275.928	10 <i>w</i>	23380.16		4218.920	3 <i>d</i>	23696.07	
4275.072	180	23384.84	17642 _{15/2} - 41026 _{17/2}	4218.635	4 <i>w</i>	23697.67	
4274.970	8	23385.40		4214.499	5 <i>c</i>	23720.93	
4274.827	30	23386.18		4212.527	2 <i>w</i>	23732.04	
4274.393	2	23388.55		4212.321	3 <i>w</i>	23733.20	
4273.943	4	23391.02		4211.388	4	23738.45	
4273.856	5	23391.49		4209.946	1	23746.58	
4272.874	30 <i>w</i>	23396.87		4209.875	1	23746.98	
4271.958	2	23401.88		4209.493	15	23749.14	36670 _{11/2} - 60419 _{11/2}
4270.062	6	23412.27		4209.245	5	23750.54	
4269.801	20	23413.71		4208.531	5 <i>d</i>	23754.57	
4268.818	10	23419.10		4206.191	1	23767.78	
4267.883	20	23424.23		4205.239	10	23773.16	
4267.532	5	23426.15		4204.931	8 <i>d</i>	23774.90	
4267.142	20	23428.29	44903 _{5/2} - 68331 _{7/2}	4204.461	25	23777.56	36642 _{13/2} - 60419 _{11/2}
4266.490	9	23431.88		4204.022	25	23780.05	
4266.122	6	23433.90		4203.785	15	23781.39	
4265.360	20	23438.08		4203.092	8	23785.31	
4262.466	4 <i>w</i>	23454.00		4202.778	3 <i>d</i>	23787.08	
4260.842	9	23462.94		4202.562	15	23788.31	
4260.532	5	23464.64		4202.279	20	23789.91	
4259.411	7	23470.82		4201.822	1	23792.50	38448 _{9/2} - 62240 _{11/2}
4259.322	7	23471.31		4201.747	1	23792.92	
4258.569	9	23475.46		4201.418	3	23794.78	
4257.627	20 <i>d</i>	23480.65		4199.341	2 <i>w</i>	23806.55	
4256.920	25	23484.55		4198.294	7	23812.49	44679 _{7/2} - 68492 _{7/2}
4252.253	9	23510.33		4197.596	2	23816.45	
4250.492	2	23520.07		4197.010	240	23819.77	
4250.299	40	23521.13		4190.617	9	23856.11	
4250.159	10 <i>w</i>	23521.91		4190.491	15 <i>d</i>	23856.83	
4249.956	7 <i>w</i>	23523.03		4190.117	5	23858.96	24886 _{7/2} - 48745 _{5/2}
4249.455	30	23525.81	36640 _{7/2} - 60166 _{9/2}	4189.196	1	23864.20	44679 _{7/2} - 68544 _{9/2}
4249.289	30	23526.73		4188.951	25	23865.60	
4248.822	5	23529.31	11761 _{9/2} - 35291 _{9/2}	4187.155	1 <i>c</i>	23875.84	

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
4184.887	5	23888.78		4102.514	1	24368.42	
4184.376	1	23891.69		4095.888	5d	24407.84	
4184.176	180	23892.83	38785 _{15/2} — 62678 _{13/2} ^o	4094.843	7	24414.07	
4183.758	1	23895.22		4094.211	7	24417.84	
4183.329	20	23897.67		4087.439	8	24458.29	44679 _{7/2} — 69138 _{9/2} ^o
4183.200	8	23898.41	39870 _{9/2} — 63768 _{7/2} ^o	4084.298	1	24477.10	
4181.950	7	23905.55		4083.438	1	24482.26	
4180.846	25	23911.86		4082.621	15	24487.16	2893 _{13/2} ^o — 27380 _{11/2} ^o
4180.312	9	23914.92		4082.247	5	24489.40	39725 _{15/2} ^o — 64215 _{13/2} ^o
4179.769	150	23918.03		4081.070	7	24496.46	
4178.913	3d	23922.92		4081.028	6	24496.71	
4178.080	25	23927.69					
4177.844	3d	23929.05		4080.803	4*v	24498.06	33659 _{5/2} — 58158 _{7/2} ^o
4177.103	3d	23933.29		4080.722	0	24498.55	
4176.849	2	23934.75		4080.658	0	24498.93	
4176.156	1	23938.72					
4174.774	1	23946.64		4073.880	2	24539.69	
4174.690	2	23947.12		4073.821	2	24540.05	
4174.490	2	23948.27		4067.801	1c	24576.37	
4173.571	6w	23953.54					
4172.147	90	23961.72		4066.120	1*v	24586.53	
4167.087	9w	23990.82		4066.077	0	24586.79	
4166.483	3	23994.29					
4165.932	8	23997.47		4065.088	0	24592.77	
4165.098	8w	24002.27		4065.034	0	24593.09	
4161.103	5	24025.32		4064.981	7*r	24593.42	
4160.937	6w	24026.27					
4159.949	4w	24031.98	13887 _{7/2} ^o — 37919 _{7/2} ^o	4052.495	6	24669.19	79136 _{13/2} ^o — 103805 _{13/2} ^o
4158.651	2	24039.48	11761 _{9/2} ^o — 35801 _{7/2} ^o	4052.256	2	24670.64	
4156.170	20w	24053.83		4052.136	2	24671.37	38549 _{1/2} ^o — 63221 _{3/2} ^o
4155.372	2	24058.45		4049.663	8	24686.44	36670 _{11/2} ^o — 61357 _{9/2} ^o
4154.703	3w	24062.32		4044.291	7	24719.23	
4153.228	20	24070.87		4037.612	4*r	24760.12	
4153.044	25	24071.94		4034.345	5	24780.17	
4152.490	8	24075.15	44903 _{5/2} — 68978 _{5/2} ^o	4033.677	1	24784.27	
4150.996	10	24083.81		4032.335	7	24792.52	
4150.397	6	24087.29	38448 _{9/2} — 62535 _{9/2} ^o	4030.479	4c	24803.94	
4150.326	3	24087.70		4029.604	180	24809.32	4453 _{15/2} ^o — 29263 _{13/2} ^o
4149.514	15	24092.41		4028.583	4d	24815.61	
4148.387	6	24098.96		4020.270	6	24866.92	
4148.178	3	24100.17		4018.363	90	24878.72	11761 _{9/2} ^o — 36640 _{7/2} ^o
4147.850	90	24102.08		4015.744	2w	24894.95	15045 _{5/2} ^o — 39940 _{7/2} ^o
4147.040	8d	24106.79		4013.866	1	24906.60	
4146.880	10w	24107.72		4012.753	10	24913.50	10950 _{3/2} ^o — 35863 _{3/2} ^o
4146.446	8d	24110.24	38448 _{9/2} — 62558 _{11/2} ^o	4010.895	3*r	24925.05	
4146.363	4	24110.72		4009.566	2w	24933.31	
4146.289	3	24111.15		4001.754	2	24981.98	
4146.217	6d	24111.57		4001.634	1	24982.73	
4144.477	120	24121.69	44679 _{7/2} — 68801 _{7/2} ^o	4000.963	8	24986.92	39870 _{9/2} — 64857 _{9/2} ^o
4142.463	90	24133.42		4000.199	200	24991.69	10032 _{5/2} ^o — 35024 _{7/2} ^o
4137.008	6d	24165.24		3997.865	4	25006.28	44679 _{7/2} — 69686 _{9/2} ^o
4136.164	3d	24170.17					
4135.853	2	24171.99		3992.057	0	25042.66	
4133.187	7d	24187.58	10950 _{3/2} ^o — 35137 _{3/2} ^o	3992.011	4*r	25042.95	
4131.877	8	24195.25	40205 _{3/2} ^o — 64401 _{5/2} ^o				
4125.980	1	24229.83		3991.845	0	25043.99	
4120.853	30d	24259.98	16763 _{9/2} ^o — 41023 _{7/2} ^o	3991.813	4*r	25044.19	
4119.583	2	24267.45					
4113.820	6	24301.45		3985.695	3*v	25082.63	
4112.862	20	24307.11	44679 _{7/2} — 68987 _{7/2} ^o	3983.736	2	25094.97	
4109.033	2	24329.76					
4107.773	4	24337.22		3983.653	3*v	25095.49	
4105.513	5d	24350.62		3983.615	0	25095.73	
4103.103	5*r	24364.92	35801 _{7/2} — 60166 _{9/2} ^o				
4103.020	8	24365.42	39870 _{9/2} — 64235 _{9/2} ^o	3982.329	6	25103.83	

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
3980.514	150	25115.28	38701 _{13/2} — 63816 _{11/2}	3826.005	0	26129.51	
3980.154	4	25117.55		3825.952	0	26129.87	
3979.116	20	25124.10	39732 _{11/2} — 64857 _{9/2}	3825.890	0	26130.29	
3977.844	8	25132.14	39732 _{11/2} — 64865 _{11/2}	3825.814	9 * <i>r</i>	26130.81	38726 _{7/2} — 64857 _{9/2}
3974.130	4	25155.62	23245 _{5/2} — 48401 _{3/2}				
3968.200	6 * <i>v</i>	25193.21		3822.585	1	26152.89	10859 _{7/2} — 37011 _{5/2}
3964.561	1	25216.34		3821.840	8	26157.98	
3960.875	2 <i>c</i>	25239.80		3821.023	7	26163.58	38701 _{13/2} — 64865 _{11/2}
3948.506	8 <i>c</i>	25318.87	15705 _{9/2} — 41023 _{7/2}	3819.711	8	26172.56	45805 _{9/2} — 71978 _{7/2}
3945.110	3	25340.66	34825 _{7/2} — 60166 _{9/2}	3817.254	60	26189.41	39732 _{11/2} — 65922 _{11/2}
3934.370	1 <i>c</i>	25409.84		3814.094	2	26211.11	13887 _{7/2} — 40098 _{5/2}
3933.647	8	25414.51					
3932.701	1 <i>c</i>	25420.62		3812.626	0	26221.20	
3931.303	15	25429.66	38785 _{15/2} — 64215 _{13/2}	3812.572	4 * <i>r</i>	26221.57	35384 _{5/2} — 61605 _{7/2}
3928.466	2 <i>w</i>	25448.02					
3926.575	2	25460.28		3808.820	10	26247.40	10950 _{3/2} — 37197 _{3/2}
3921.106	6	25495.79	35024 _{7/2} — 60520 _{7/2}	3808.016	1	26252.94	38726 _{7/2} — 64979 _{7/2}
3912.990	8 * <i>v</i>	25548.67		3806.860	0	26260.91	
3912.941	0	25548.99		3806.815	0	26261.22	
3912.896	0	25549.28		3806.756	3 * <i>r</i>	26261.63	35801 _{7/2} — 62062 _{9/2}
3912.857	0	25549.54					
				3803.302	0	26285.48	
3911.872	4	25555.97		3803.241	4 * <i>r</i>	26285.90	52026 _{3/2} — 78312 _{1/2}
3908.997	1 <i>c</i>	25574.77					
3905.341	10	25598.71	36642 _{13/2} — 62240 _{11/2}	3802.550	1 <i>d</i>	26290.68	
3899.000	7	25640.34	27452 _{3/2} — 53092 _{7/2}	3799.536	1	26311.53	
3896.367	2 <i>c</i>	25657.66		3799.075	1	26314.73	
				3796.504	6 <i>w</i>	26332.55	35024 _{7/2} — 61357 _{9/2}
3891.328	0	25690.89		3785.500	5 <i>d</i>	26409.09	
3891.271	0	25691.26		3784.605	4	26415.33	39732 _{11/2} — 66148 _{13/2}
3891.195	8 * <i>r</i>	25691.77	45844 _{3/2} — 71536 _{5/2}	3783.595	9 <i>w</i>	26422.39	39725 _{15/2} — 66148 _{13/2}
				3779.487	2 <i>d</i>	26451.10	
3887.789	3	25714.27		3774.353	3	26487.08	
3884.962	10	25732.98	10950 _{3/2} — 36683 _{1/2}	3773.770	1	26491.17	
3884.032	2 <i>d</i>	25739.15		3771.413	7 <i>w</i>	26507.73	
3883.335	2	25743.77		3768.821	4	26525.96	
3881.571	1	25755.46		3768.290	4	26529.70	12494 _{11/2} — 39024 _{9/2}
3881.290	2 <i>w</i>	25757.33		3763.380	1 <i>c</i>	26564.31	37011 _{5/2} — 63576 _{5/2}
3880.312	3	25763.82		3762.713	6	26569.02	36652 _{5/2} — 63221 _{3/2}
3879.950	2	25766.23		3761.162	2 <i>d</i>	26579.97	
3878.738	2	25774.28		3760.988	2	26581.20	35024 _{7/2} — 61605 _{7/2}
3877.821	1	25780.37		3758.641	1 <i>w</i>	26597.80	
3876.781	3	25787.29	38448 _{9/2} — 64235 _{9/2}	3753.670	4	26633.02	44903 _{5/2} — 71536 _{5/2}
3876.707	3	25787.78		3751.864	2	26645.84	26446 _{7/2} — 53092 _{7/2}
3875.537	1 <i>w</i>	25795.56	10032 _{9/2} — 35828 _{9/2}	3745.165	2	26693.50	35024 _{7/2} — 61717 _{5/2}
3871.358	2	25823.41		3743.545	4 <i>w</i>	26705.06	
3868.391	1	25843.21		3740.017	7	26730.25	35828 _{9/2} — 62558 _{11/2}
3866.803	1	25853.83		3738.614	2	26740.28	
3865.865	2	25860.10		3736.309	3 <i>c</i>	26756.77	37011 _{5/2} — 63768 _{7/2}
3863.486	6 * <i>v</i>	25876.02		3732.494	1 <i>w</i>	26784.12	
				3727.153	1 <i>w</i>	26822.50	
3861.955	0	25886.28		3717.779	1	26890.13	
3861.907	0	25886.60		3716.674	3 <i>w</i>	26898.12	39024 _{9/2} — 65922 _{11/2}
3861.853	0	25886.97		3711.195	2 <i>c</i>	26937.83	
3861.799	60 * <i>r</i>	25887.33					
				3709.211	0	26952.24	
3860.623	4 <i>w</i>	25895.21	36640 _{7/2} — 62535 _{9/2}	3709.155	0	26952.65	
3858.249	6	25911.15		3709.109	0	26952.98	
3857.446	15	25916.54	36642 _{13/2} — 62558 _{11/2}	3709.041	9 * <i>r</i>	26953.48	33466 _{11/2} — 60419 _{11/2}
3845.053	5 <i>d</i>	26000.07	34520 _{5/2} — 60520 _{7/2}				
3843.864	2 <i>d</i>	26008.11	36670 _{11/2} — 62678 _{13/2}	3705.936	1	26976.06	
3843.595	2	26009.93		3705.527	1	26979.04	
3839.660	2	26036.59	36642 _{13/2} — 62678 _{13/2}	3705.031	1	26982.65	39870 _{9/2} — 66852 _{7/2}
				3701.297	2 <i>w</i>	27009.87	39725 _{15/2} — 66735 _{13/2}

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
3694.847	2	27057.02		3643.172	1 * _v	27440.79	30733 _{11/2} — 58174 _{9/2}
3694.513	4	27059.47	10138 _{5/2} — 37197 _{3/2}	3642.834	9 _d	27443.33	
3694.451	2	27059.92	37919 _{7/2} — 64979 _{7/2}	3642.379	6	27446.76	38701 _{13/2} — 66148 _{13/2}
3692.634	2	27073.23		3635.138	2	27501.43	
3692.382	1	27075.08	44903 _{5/2} — 71978 _{7/2}	3634.164	9 _d	27508.80	36642 _{13/2} — 64150 _{11/2}
3692.203	1	27076.39		3634.136	4 _c	27509.02	
3690.978	10 _d	27085.38	34520 _{5/2} — 61605 _{7/2}	3629.414	1	27544.80	36670 _{11/2} — 64215 _{13/2}
3689.799	1	27094.03	12846 _{9/2} — 39940 _{7/2}	3629.414	1	27544.80	20856 _{3/2} — 48401 _{3/2}
3689.370	1 _d	27097.19		3622.880	1	27594.48	
3688.298	2	27105.06		3621.501	1	27604.99	
3687.683	1	27109.58		3617.254	1	27637.40	
3686.761	9 _d	27116.36	36652 _{5/2} — 63768 _{7/2}				
3686.464	2 _c	27118.55		3614.334	1 * _v	27659.73	32760 _{13/2} — 60419 _{11/2}
3684.918	1	27129.92		3614.293	0	27660.04	
3683.745	4	27138.56	0 _{9/2} — 27138 _{7/2}	3614.252	0	27660.35	
3682.690	3	27146.34	36670 _{11/2} — 63816 _{11/2}				
3682.059	1	27150.99	18693 _{5/2} — 45844 _{3/2}	3613.851	1	27663.42	
3681.134	1	27157.81	25934 _{5/2} — 53092 _{7/2}	3613.768	1	27664.06	
3680.770	1	27160.50		3613.540	1	27665.80	39732 _{11/2} — 67398 _{9/2}
				3611.290	1	27683.04	25409 _{7/2} — 53092 _{7/2}
3680.410	0	27163.15					
3680.366	3 * _r	27163.48	30994 _{9/2} — 58158 _{7/2}	3607.120	0	27715.04	
				3607.068	4 * _r	27715.44	52026 _{3/2} — 79742 _{1/2}
3678.835	30	27174.78	36642 _{13/2} — 63816 _{11/2}				
				3603.319	7	27744.28	10950 _{3/2} — 38694 _{5/2}
3678.275	0	27178.92		3601.192	7	27760.66	36640 _{7/2} — 64401 _{5/2}
3678.220	0	27179.32		3600.464	2	27766.28	
3678.153	30 * _r	27179.82	30994 _{9/2} — 58174 _{9/2}	3595.094	2	27807.75	17095 _{3/2} — 44903 _{5/2}
				3591.515	4	27835.46	10859 _{7/2} — 38694 _{5/2}
3677.146	1	27187.26		3591.344	30 _c	27836.78	35384 _{5/2} — 63221 _{3/2}
3675.730	5	27197.74	34520 _{5/2} — 61717 _{5/2}	3589.891	8 * _r	27848.05	35384 _{5/2} — 63232 _{7/2}
3674.959	1	27203.44	37197 _{3/2} — 64401 _{5/2}	3584.665	9	27888.65	20856 _{3/2} — 48745 _{5/2}
3674.345	0	27207.99		3577.919	7 * _v	27941.23	35291 _{9/2} — 63232 _{7/2}
3674.301	0	27208.31		3577.863	0	27941.67	
3674.248	4 * _r	27208.71	38726 _{7/2} — 65935 _{7/2}	3577.813	0	27942.06	
3672.611	8	27220.83	38701 _{13/2} — 65922 _{11/2}	3577.336	8 * _v	27945.78	33659 _{5/2} — 61605 _{7/2}
3670.379	2	27237.39		3577.280	0	27946.22	
3669.780	2	27241.83					
3667.615	2	27257.91		3576.786	9	27950.08	38785 _{15/2} — 66735 _{13/2}
3667.312	4 _d	27260.16		3574.554	2	27967.53	35801 _{7/2} — 63768 _{7/2}
3666.586	1	27265.56	38701 _{13/2} — 65967 _{13/2}	"			37011 _{5/2} — 64979 _{7/2}
				3571.621	1	27990.50	
3666.304	2 * _v	27267.66	35291 _{9/2} — 62558 _{11/2}	3570.141	1	28002.10	
3666.238	0	27268.15		3568.418	2	28015.62	37919 _{7/2} — 65935 _{7/2}
3666.181	0	27268.57		3567.897	1 _c	28019.71	50869 _{1/2} — 78889 _{3/2}
3666.136	0	27268.91					
				3565.845	9 * _v	28035.84	50658 _{13/2} — 78694 _{11/2}
3662.150	10	27298.59	44679 _{7/2} — 71978 _{7/2}	3565.794	0	28036.24	
3660.331	2 _c	27312.15		3565.742	0	28036.65	
3658.964	3	27322.36	1398 _{11/2} — 28720 _{9/2}	3565.698	0	28036.99	
3658.341	1	27327.01		3565.654	0	28037.34	
3657.526	1	27333.10					
3655.197	4	27350.51	41023 _{7/2} — 68374 _{9/2}	3564.442	0	28046.87	
3655.154	3 _d	27350.84		3564.405	30 * _r	28047.16	50647 _{11/2} — 78694 _{11/2}
3655.068	8	27351.48					
3654.260	8	27357.53	35863 _{3/2} — 63221 _{3/2}	3563.019	25 * _v	28058.07	33659 _{5/2} — 61717 _{5/2}
3653.580	180	27362.62	38785 _{15/2} — 66148 _{13/2}	3562.960	0	28058.54	
3652.778	9	27368.63					
3651.218	1	27380.32	0 _{9/2} — 27380 _{11/2}	3559.603	2	28085.00	50227 _{3/2} — 78312 _{1/2}
3650.046	4	27389.11	37011 _{5/2} — 64401 _{5/2}	3559.508	2	28085.75	
3648.724	1	27399.03		3559.434	1	28086.33	
3645.438	1	27423.73		3547.961	3	28177.15	36640 _{7/2} — 64817 _{5/2}
3644.470	9 * _r	27431.01	35801 _{7/2} — 63232 _{7/2}				

TABLE 1. *Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued*

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
3546.119	0	28191.79		3480.949	0	28719.58	
3546.063	6 * <i>r</i>	28192.23	35384 _{5/2} — 63576 _{5/2}	3477.969	6	28744.18	35024 _{7/2} — 63768 _{7/2}
3544.117	4	28207.71	35024 _{7/2} — 63232 _{7/2}	3475.101	4 * <i>v</i>	28767.91	34825 _{7/2} — 63593 _{9/2}
3544.059	1	28208.17		3475.061	0	28768.24	
3542.986	20 <i>d</i>	28216.72	36640 _{7/2} — 64857 _{9/2}	3475.029	0	28768.50	
3539.566	1	28243.98		3474.996	0	28768.77	
3535.322	1 <i>c</i>	28277.88					
3532.264	2 * <i>v</i>	28302.36	35291 _{9/2} — 63593 _{9/2}	3474.467	0	28773.15	
3532.205	0	28302.84		3474.430	0	28773.46	
3532.154	0	28303.25		3474.398	0	28773.73	
				3474.357	0	28774.07	
3531.962	2 <i>w</i>	28304.78	24788 _{9/2} — 53092 _{7/2}	3474.311	20 * <i>r</i>	28774.45	33466 _{11/2} — 62240 _{11/2}
3529.824	0	28321.93		3462.700	1 * <i>r</i>	28870.93	52026 _{3/2} — 80897 _{3/2}
3529.778	0	28322.30		3462.432	1 * <i>r</i>	28873.16	50869 _{1/2} — 79742 _{1/2}
3529.728	9 * <i>r</i>	28322.70	38726 _{7/2} — 67049 _{9/2}				
3527.773	15	28338.39		3454.051	70 * <i>v</i>	28943.22	34825 _{7/2} — 63768 _{7/2}
3527.682	20	28339.12	29835 _{9/2} — 58174 _{9/2}	3454.011	0	28943.56	
"			36640 _{7/2} — 64979 _{7/2}				
3523.889	2	28369.63		3453.001	0	28952.02	
				3452.964	0	28952.33	
3522.765	0	28378.68		3452.927	30 * <i>r</i>	28952.64	38726 _{7/2} — 67679 _{7/2}
3522.706	0	28379.15					
3522.635	30 * <i>r</i>	28379.73	33338 _{3/2} — 61717 _{3/2}	3449.392	5	28982.31	10138 _{5/2} — 39120 _{3/2}
				3445.288	50 * <i>r</i>	29016.83	35384 _{5/2} — 64401 _{5/2}
3522.112	0	28383.94					
3522.078	0	28384.21		3440.708	0	29055.46	
3522.035	30 * <i>r</i>	28384.56	35384 _{5/2} — 63768 _{7/2}	3440.667	0	29055.80	
				3440.623	150 * <i>r</i>	29056.18	35801 _{7/2} — 64857 _{9/2}
3517.520	2	28420.99					
3515.886	0	28434.20		3436.397	0	29091.91	
3515.854	1 * <i>r</i>	28434.46	35801 _{7/2} — 64235 _{5/2}	3436.358	300 * <i>r</i>	29092.24	33466 _{11/2} — 62558 _{11/2}
3512.507	4 <i>w</i>	28461.55	39870 _{9/2} — 68331 _{7/2}	3430.227	6 * <i>r</i>	29144.23	38726 _{7/2} — 67870 _{9/2}
3511.363	2	28470.83					
				3429.484	0	29150.55	
3510.532	20 * <i>v</i>	28477.57	50658 _{13/2} — 79136 _{13/2}	3429.416	2 * <i>r</i>	29151.13	35828 _{9/2} — 64979 _{7/2}
3510.491	0	28477.90					
3510.446	0	28478.26		3427.872	4 <i>c</i>	29164.26	
3510.402	0	28478.62		3427.018	500 * <i>r</i>	29171.52	30994 _{9/2} — 60166 _{9/2}
3510.369	0	28478.89		3426.267	50 <i>c</i>	29177.92	35801 _{7/2} — 64979 _{7/2}
3510.335	0	28479.16		3426.117	5	29179.19	9370 _{3/2} — 38549 _{1/2}
3509.183	0	28488.51		3422.358	0	29211.24	
3509.142	3 * <i>r</i>	28488.85	50647 _{11/2} — 79136 _{13/2}	3422.317	0	29211.59	
				3422.272	0	29211.98	
				3422.222	300 * <i>r</i>	29212.40	33466 _{11/2} — 62678 _{13/2}
3507.231	2	28504.37	39870 _{9/2} — 68374 _{9/2}				
3506.683	15 <i>d</i>	28508.82		3420.071	150 * <i>v</i>	29230.78	38448 _{9/2} — 67679 _{7/2}
3499.313	8	28568.86	35024 _{7/2} — 63593 _{9/2}	3420.006	0	29231.33	
3495.965	1 <i>c</i>	28596.22	33466 _{11/2} — 62062 _{9/2}	3419.949	0	29231.82	
3495.565	4 <i>c</i>	28599.50	35801 _{7/2} — 64401 _{5/2}	3419.904	0	29232.20	
3494.106	4	28611.44		3419.865	0	29232.54	
3494.037	4	28612.00					
3488.797	4	28654.97	39024 _{9/2} — 67679 _{7/2}	3419.038	8	29239.61	10859 _{7/2} — 40098 _{5/2}
3488.308	4	28658.99		3417.607	2	29251.85	36670 _{11/2} — 65922 _{11/2}
3488.260	4	28659.39		3416.389	7 <i>w</i>	29262.28	11761 _{9/2} — 41023 _{7/2}
3483.200	4	28701.02	34520 _{3/2} — 63221 _{3/2}	3415.714	7	29268.06	39870 _{9/2} — 69138 _{9/2}
3481.081	1 * <i>v</i>	28718.49		3415.152	300 * <i>v</i>	29272.88	28885 _{9/2} — 58158 _{7/2}
3481.035	0	28718.87		3415.105	0	29273.28	
3480.992	0	28719.22		3415.065	0	29273.62	

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
3414.293	2 <i>w</i>	29280.24	36642 _{13/2} — 65922 _{11/2} ^o	3379.049	0	29585.63	
3413.921	1 <i>c</i>	29283.43		3378.984	0	29586.20	
3413.210	500 <i>c</i>	29289.53	28885 _{9/2} — 58174 _{9/2} ^o	3378.936	0	29586.62	
3412.665	6	29294.21		3378.905	0	29586.89	
3412.607	7 * <i>r</i>	29294.71	50869 _{1/2} — 80164 _{3/2} ^o	3378.880	0	29587.11	
3403.094	0	29376.59		3377.972	5 <i>c</i>	29595.06	35384 _{5/2} — 64979 _{7/2} ^o
3403.036	0	29377.10					
3402.969	50 * <i>r</i>	29377.67	52026 _{3/2} — 81404 _{5/2} ^o	3377.141	100 * <i>v</i>	29602.34	45807 _{5/2} — 75409 _{3/2} ^o
				3377.058	0	29603.07	
3399.788	7	29405.16		3376.993	0	29603.64	
3399.207	3 * <i>v</i>	29410.19	34825 _{7/2} — 64235 _{9/2} ^o	3376.943	0	29604.08	
3398.587	1 <i>w</i>	29415.55	38549 _{1/2} — 67965 _{3/2} ^o	3376.916	0	29604.32	
3397.787	35 * <i>v</i>	29422.48	38448 _{9/2} — 67870 _{9/2} ^o	3376.331	1	29609.45	
3397.734	0	29422.94		3373.167	3	29637.22	38694 _{5/2} — 68331 _{7/2} ^o
				3372.784	2	29640.58	
3397.550	0	29424.53		3372.021	0	29647.29	
3397.505	0	29424.92		3371.978	0	29647.67	
3397.456	300 * <i>r</i>	29425.34	30994 _{9/2} — 60419 _{11/2} ^o	3371.924	100 * <i>r</i>	29648.14	38726 _{7/2} — 68374 _{9/2} ^o
3396.625	300 * <i>v</i>	29432.54	30733 _{11/2} — 60166 _{9/2} ^o				
3396.571	0	29433.01		3370.523	7	29660.47	30505 _{11/2} — 60166 _{9/2} ^o
3396.521	0	29433.44		3368.338	5	29679.71	35137 _{3/2} — 64817 _{5/2} ^o
3396.477	0	29433.82					
3396.441	0	29434.14		3367.582	500 * <i>v</i>	29686.37	30733 _{11/2} — 60419 _{11/2} ^o
				3367.543	0	29686.71	
3396.069	600 <i>d</i>	29437.36	28720 _{9/2} — 58158 _{7/2} ^o				
3394.924	2	29447.29		3367.350	200 * <i>v</i>	29688.41	35291 _{9/2} — 64979 _{7/2} ^o
3394.215	1000 <i>w</i>	29453.44	28720 _{9/2} — 58174 _{9/2} ^o	3367.287	0	29688.97	
				3367.231	0	29689.46	
3391.077	100 * <i>v</i>	29480.69	32760 _{13/2} — 62240 _{11/2} ^o				
3391.029	0	29481.11		3365.804	50 * <i>v</i>	29702.05	50658 _{13/2} — 80360 _{11/2} ^o
3390.987	0	29481.48		3365.756	0	29702.47	
3390.949	0	29481.81		3365.711	0	29702.87	
				3365.668	0	29703.25	
3387.869	1	29508.61		3365.627	0	29703.61	
				3365.599	0	29703.86	
3387.189	6 * <i>v</i>	29514.53	50227 _{3/2} — 79742 _{1/2} ^o				
3387.097	0	29515.33		3365.129	5	29708.01	18693 _{1/2} — 48401 _{3/2} ^o
3387.028	0	29515.93		3364.878	50	29710.22	
3386.983	0	29516.33					
3386.567	1	29519.95	39024 _{9/2} — 68544 _{9/2} ^o	3364.588	0	29712.78	
3385.002	1 <i>c</i>	29533.60		3364.555	0	29713.08	
3383.741	5 <i>c</i>	29544.61		3364.523	100 * <i>r</i>	29713.36	50647 _{11/2} — 80360 _{11/2} ^o
3381.842	300 * <i>v</i>	29561.20	33659 _{5/2} — 63221 _{3/2} ^o	3364.311	0	29715.23	
3381.772	0	29561.81		3364.265	0	29715.64	
3381.716	0	29562.30		3364.209	6 * <i>r</i>	29716.13	45844 _{3/2} — 75560 _{5/2} ^o
3381.672	0	29562.68					
3381.420	5 * <i>r</i>	29564.88	45844 _{3/2} — 75409 _{3/2} ^o	3363.273	7	29724.40	
				3363.250	8	29724.60	
3381.259	150 * <i>v</i>	29566.29	35291 _{9/2} — 64857 _{9/2} ^o	3363.113	6	29725.82	
3381.213	0	29566.69		3363.079	7	29726.12	
3381.177	0	29567.01		3360.899	5	29745.40	37197 _{3/2} — 66943 _{5/2} ^o
				3360.401	1 <i>w</i>	29749.80	9370 _{3/2} — 39120 _{3/2} ^o
				3360.157	5	29751.96	
3380.912	5 <i>c</i>	29569.33		3359.973	3 * <i>v</i>	29753.59	45807 _{5/2} — 75560 _{5/2} ^o
				3359.839	0	29754.78	
3380.213	150 * <i>v</i>	29575.44	34825 _{7/2} — 64401 _{5/2} ^o				
3380.160	0	29575.91		3359.446	0	29758.26	
3380.115	0	29576.30		3359.414	500 * <i>r</i>	29758.54	28399 _{7/2} — 58158 _{7/2} ^o
3379.131	50 * <i>v</i>	29584.91	51312 _{5/2} — 80897 _{3/2} ^o	3358.664	0	29765.19	

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
3358.627	0	29765.52		3339.332	0	29937.50	
3358.583	5 * _r	29765.91	38726 _{7/2} - 68492 _{7/2}	3337.805	3 w	29951.20	37919 _{7/2} - 67870 _{9/2}
3358.205	0	29769.26		3337.578	3	29953.23	39732 _{11/2} - 69686 _{9/2}
3358.152	0	29769.73		3336.771	3	29960.48	10138 _{5/2} - 40098 _{5/2}
3358.083	30 * _r	29770.34	45844 _{3/2} - 75614 _{5/2}	3333.258	60 * _v	29992.05	34825 _{7/2} - 64817 _{5/2}
3357.706	0	29773.68		3333.218	0	29992.41	
3357.677	0	29773.94		3333.182	0	29992.74	
3357.618	0	29774.46		3331.823	6 * _v	30004.97	35291 _{9/2} - 65295 _{7/2}
3357.563	500 * _r	29774.95	28399 _{7/2} - 58174 _{9/2}	3331.772	0	30005.43	
3355.525	7	29793.03	35024 _{7/2} - 64817 _{5/2}	3331.727	0	30005.83	
3354.914	250 * _v	29798.46	32760 _{13/2} - 62558 _{11/2}	3328.846	7 * _v	30031.80	34825 _{7/2} - 64857 _{9/2}
3354.862	0	29798.92		3328.814	0	30032.09	
3354.817	0	29799.32		3328.789	0	30032.32	
3354.774	0	29799.70		3327.856	2	30040.74	36640 _{7/2} - 66681 _{5/2}
3353.866	50 * _v	29807.77	45807 _{5/2} - 75614 _{5/2}	3327.489	20 * _v	30044.05	38448 _{9/2} - 68492 _{7/2}
3353.803	0	29808.33		3327.430	0	30044.58	
3353.493	5	29811.09		3327.379	0	30045.04	
3351.070	50 w	29832.64	35024 _{7/2} - 64857 _{9/2}	3327.338	0	30045.41	
3350.548	3	29837.29	10032 _{9/2} - 39870 _{9/2}	3324.885	1 w	30067.58	10138 _{5/2} - 40205 _{3/2}
3350.265	6	29839.81		3324.132	2	30074.39	
3349.038	1	29850.74		3322.564	4	30088.58	
3346.426	6 w	29874.04		3322.392	4	30090.14	
3345.671	7	29880.78	34520 _{5/2} - 64401 _{5/2}	3322.203	6 * _v	30091.85	51312 _{5/2} - 81404 _{5/2}
3345.484	0	29882.45		3322.148	0	30092.35	
3345.441	70 * _r	29882.83	33338 _{3/2} - 63221 _{3/2}	3320.392	3 * _r	30108.26	35801 _{7/2} - 65909 _{5/2}
3345.385	70 * _v	29883.33	38448 _{9/2} - 68331 _{7/2}	3320.336	4 * _v	30108.77	33659 _{5/2} - 63768 _{7/2}
3345.326	0	29883.86		3320.286	0	30109.22	
3345.275	0	29884.32		3320.246	0	30109.59	
3345.233	0	29884.69		3320.217	0	30109.85	
3345.200	0	29884.99		3318.403	1 c	30126.31	
3345.179	0	29885.17		3317.555	8 * _r	30134.01	35801 _{7/2} - 65935 _{7/2}
3344.555	4	29890.75		3316.031	1 c	30147.86	
3343.336	3	29901.65		3314.334	2	30163.29	
3342.236	0	29911.49		3314.154	1	30164.93	10859 _{7/2} - 41023 _{7/2}
3342.202	30 * _r	29911.79	35384 _{5/2} - 65295 _{7/2}	3310.243	4	30200.57	36652 _{5/2} - 66852 _{7/2}
3341.954	30	29914.01	30505 _{11/2} - 60419 _{11/2}	3306.259	0	30236.96	
3341.682	70 * _v	29916.45	33659 _{5/2} - 63576 _{5/2}	3306.202	0	30237.48	
3341.637	0	29916.85		3306.135	100 * _r	30238.09	33338 _{3/2} - 63576 _{5/2}
3341.612	0	29917.07		3304.659	1 c	30251.60	38726 _{7/2} - 68978 _{5/2}
3341.585	0	29917.32		3303.736	1 c	30260.05	38726 _{7/2} - 68987 _{7/2}
3341.434	500 * _v	29918.67	32760 _{13/2} - 62678 _{13/2}	3303.173	5	30265.21	
3341.395	0	29919.02		3302.493	30 w	30271.44	35024 _{7/2} - 65295 _{7/2}
3341.360	0	29919.33		3299.677	5	30297.27	34520 _{5/2} - 64817 _{5/2}
3340.582	90 * _v	29926.30	38448 _{9/2} - 68374 _{9/2}	3296.095	90 * _v	30330.20	50658 _{13/2} - 80988 _{13/2}
3340.535	0	29926.72		3296.059	0	30330.53	
3340.492	0	29927.10		3296.028	0	30330.81	
3340.459	0	29927.40		3295.995	0	30331.12	
3340.432	0	29927.64		3295.968	0	30331.37	
3339.470	7 * _v	29936.26	50227 _{3/2} - 80164 _{3/2}	3295.021	0	30340.08	
3339.397	0	29936.92		3294.988	0	30340.39	

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å – Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
3294.952	0	30340.72					
3294.913	0	30341.08		3261.395	3	30652.89	
3294.871	5 * _r	30341.46	50647 _{11/2} – 80988 _{13/2} ^o	3260.429	1	30661.97	39024 _{9/2} – 69686 _{9/2} ^o
3294.020	0	30349.30		3258.104	0	30683.85	
3293.998	0	30349.50		3258.068	0	30684.19	
3293.967	0	30349.79		3258.026	2 * _r	30684.58	33466 _{11/2} – 64150 _{11/2} ^o
3293.926	0	30350.17					
3293.884	4 * _r	30350.55	33466 _{11/2} – 63816 _{11/2} ^o	3257.455	5 * _v	30689.96	38448 _{9/2} – 69138 _{9/2} ^o
				3257.405	0	30690.43	
3293.584	5 * _v	30353.32	38448 _{9/2} – 68801 _{7/2} ^o	3257.362	0	30690.84	
3293.532	0	30353.80		3257.329	0	30691.15	
3293.487	0	30354.21					
3293.449	0	30354.56		3255.988	0	30703.79	
3293.420	0	30354.83		3255.958	0	30704.07	
				3255.920	4 * _r	30704.43	38726 _{7/2} – 69431 _{7/2} ^o
3292.623	0	30362.18					
3292.583	90 * _r	30362.55	30994 _{9/2} – 61357 _{9/2} ^o	3248.386	50 w	30775.64	34520 _{5/2} – 65295 _{7/2} ^o
				3246.470	4	30793.80	27380 _{11/2} – 58174 _{9/2} ^o
3290.625	1 c	30380.61		3245.419	2	30803.77	
3287.576	3	30408.79	36640 _{7/2} – 67049 _{9/2} ^o				
				3237.496	0	30879.16	
3287.364	0	30410.75		3237.455	0	30879.55	
3287.339	0	30410.98		3237.410	3 * _r	30879.98	35801 _{7/2} – 66681 _{5/2} ^o
3287.293	0	30411.41					
3287.246	2 * _r	30411.84	38726 _{7/2} – 69138 _{9/2} ^o	3229.114	0	30959.31	
				3229.076	20 * _r	30959.67	38726 _{7/2} – 69686 _{9/2} ^o
3282.591	2 w	30454.97	37919 _{7/2} – 68374 _{9/2} ^o				
3280.916	90 * _v	30470.51	34825 _{7/2} – 65295 _{7/2} ^o	3226.691	1 * _v	30982.56	38448 _{9/2} – 69431 _{7/2} ^o
3276.496	1	30511.62		3226.630	0	30983.14	
3276.137	1 w	30514.96		3226.582	0	30983.60	
3275.095	0	30524.67		3223.230	2	31015.82	13887 _{7/2} – 44903 _{5/2} ^o
3275.067	0	30524.93		3222.847	20 d	31019.51	27138 _{7/2} – 58158 _{7/2} ^o
3275.036	2 * _r	30525.22	35384 _{5/2} – 65900 _{5/2} ^o				
				3218.979	3 * _v	31056.78	32760 _{13/2} – 63816 _{11/2} ^o
3272.055	1	30553.03		3218.937	0	31057.19	
				3218.903	0	31057.51	
3270.701	0	30565.67		3218.870	0	31057.83	
3270.669	0	30565.97					
3270.618	3 * _r	30566.45		3209.595	1 w	31147.58	
				3209.389	1	31149.58	
3265.919	0	30610.43		3208.663	4 c	31156.63	29263 _{13/2} – 60419 _{11/2} ^o
3265.884	0	30610.76					
3265.847	3 * _r	30611.10	30994 _{9/2} – 61605 _{7/2} ^o	3208.567	4 * _v	31157.56	33659 _{5/2} – 64817 _{5/2} ^o
				3208.515	0	31158.06	
3264.520	20 * _v	30623.55	30733 _{11/2} – 61357 _{9/2} ^o	3208.482	0	31158.38	
3264.479	0	30623.93					
3264.442	0	30624.28		3206.528	2 c	31177.37	50227 _{3/2} – 81404 _{5/2} ^o
3264.411	0	30624.57	37919 _{7/2} – 68544 _{9/2} ^o				
3264.386	0	30624.80		3200.324	4 * _v	31237.81	38448 _{9/2} – 69686 _{9/2} ^o
				3200.270	0	31238.34	
3264.117	2	30627.33		3200.220	0	31238.82	
				3200.185	0	31239.16	
3263.675	6 * _v	30631.47	35291 _{9/2} – 65922 _{11/2} ^o	3200.155	0	31239.46	
3263.628	0	30631.92		3200.133	0	31239.67	
3263.585	0	30632.32					
3263.549	0	30632.66		3200.073	2	31240.26	
3263.523	0	30632.90		3199.695	2	31243.95	
3262.320	6 * _v	30644.20	35291 _{9/2} – 65935 _{7/2} ^o	3199.491	0	31245.94	
3262.263	0	30644.73		3199.456	4 * _r	31246.28	30994 _{9/2} – 62240 _{11/2} ^o
3262.214	0	30645.19					
3262.172	0	30645.59		3199.309	0	31247.72	
3262.140	0	30645.89		3199.279	5 * _r	31248.01	35801 _{7/2} – 67049 _{9/2} ^o

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
3195.908	7 * _v	31280.97	31254 _{7/2} — 62535 _{9/2} ^o	3147.043	20 * _r	31766.66	37919 _{7/2} — 69686 _{9/2} ^o
3195.865	0	31281.39		3143.780	20 _w	31799.63	28720 _{9/2} — 60520 _{7/2} ^o
3195.117	3 _c	31288.71		3143.537	7 * _v	31802.09	30733 _{11/2} — 62535 _{9/2} ^o
3191.973	1 * _v	31319.53	33659 _{5/2} — 64979 _{7/2} ^o	3143.496	0	31802.50	
3191.924	0	31320.01		3143.460	0	31802.87	
3184.746	0	31390.60		3143.431	0	31803.16	
3184.710	0	31390.96		3140.938	6	31828.40	35024 _{7/2} — 66852 _{7/2} ^o
3184.667	7 * _r	31391.38	33466 _{11/2} — 64857 _{9/2} ^o	3138.607	6	31852.04	36640 _{7/2} — 68492 _{7/2} ^o
3184.639	5 _c	31391.65	32760 _{13/2} — 64150 _{11/2} ^o	3138.226	10 _c	31855.91	34825 _{7/2} — 66681 _{3/2} ^o
3183.907	6 _c	31398.87	33466 _{11/2} — 64865 _{11/2} ^o	3136.080	10 _c	31877.70	35801 _{7/2} — 67679 _{7/2} ^o
3181.912	2	31418.56	48745 _{5/2} — 80164 _{3/2} ^o	3133.516	5	31903.79	36640 _{7/2} — 68544 _{9/2} ^o
3179.182	9 _d	31445.54	28720 _{9/2} — 60166 _{9/2} ^o	3129.459	9 * _v	31945.15	30733 _{11/2} — 62678 _{13/2} ^o
3178.188	7 * _v	31455.37	32760 _{13/2} — 64215 _{13/2} ^o	3129.414	0	31945.60	
3178.150	0	31455.75		3129.385	0	31945.90	
3178.115	0	31456.09		3129.356	0	31946.20	
3178.084	0	31456.40		3123.032	10 _c	32010.88	35384 _{5/2} — 67395 _{5/2} ^o
3176.856	0	31468.56		3122.646	7 * _v	32014.84	45807 _{5/2} — 77822 _{5/2} ^o
3176.836	5 * _r	31468.76	35384 _{5/2} — 66852 _{7/2} ^o	3122.585	0	32015.47	
3175.810	2	31478.92		3122.537	0	32015.96	
3172.952	30 * _v	31507.28	30733 _{11/2} — 62240 _{11/2} ^o	3122.495	0	32016.39	
3172.910	0	31507.69		3121.684	9	32024.71	35024 _{7/2} — 67049 _{9/2} ^o
3172.873	0	31508.06		3121.429	7 * _v	32027.32	34825 _{7/2} — 66852 _{7/2} ^o
3172.384	1	31512.92		3121.390	0	32027.72	
3172.289	1	31513.86		3118.933	8 _w	32052.95	30505 _{11/2} — 62558 _{11/2} ^o
3171.624	3	31520.47		3117.344	0	32069.29	
3171.067	1	31526.00		3117.313	7 * _r	32069.61	35801 _{7/2} — 67870 _{9/2} ^o
3170.960	1	31527.07		3113.837	8 * _v	32105.41	32760 _{13/2} — 64865 _{11/2} ^o
3170.145	10 _c	31535.17	28885 _{9/2} — 60419 _{11/2} ^o	3113.794	0	32105.85	
3167.844	4 * _v	31558.08		3113.760	0	32106.20	
3167.798	0	31558.54		3113.730	0	32106.51	
3167.275	0	31563.75		3113.555	4	32108.31	39870 _{9/2} — 71978 _{7/2} ^o
3167.242	6 * _r	31564.08	30994 _{9/2} — 62558 _{11/2} ^o	3108.884	7 * _r	32156.55	50869 _{1/2} — 83025 _{3/2} ^o
3163.874	3 * _r	31597.68	35801 _{7/2} — 67398 _{9/2} ^o	3108.430	8 _w	32161.25	36640 _{7/2} — 68801 _{7/2} ^o
3163.187	4 _c	31604.54	35384 _{5/2} — 66943 _{5/2} ^o	3104.936	4	32197.44	
3161.330	7 * _r	31623.10	50869 _{1/2} — 82492 _{3/2} ^o	3104.015	7	32206.99	
3161.367	0	31622.73		3101.132	0	32236.93	
3160.116	20 * _v	31635.25	28885 _{9/2} — 60520 _{7/2} ^o	3101.104	0	32237.23	
3159.975	10 _c	31636.66	33659 _{5/2} — 65295 _{7/2} ^o	3101.069	7 * _r	32237.59	30994 _{9/2} — 63232 _{7/2} ^o
3157.171	6	31664.76		3100.493	4	32243.58	
3154.526	8 _w	31691.31	36640 _{7/2} — 68331 _{7/2} ^o	3098.474	3 * _v	32264.59	50227 _{3/2} — 82492 _{3/2} ^o
3153.758	9 _w	31699.02	28720 _{9/2} — 60419 _{11/2} ^o	3098.401	0	32265.35	
3150.241	0	31734.41		3098.348	0	32265.90	
3150.203	9 * _r	31734.80		3097.452	9 * _v	32275.23	33659 _{5/2} — 65935 _{7/2} ^o
3147.878	9 * _v	31758.23	35291 _{9/2} — 67049 _{9/2} ^o	3097.400	0	32275.77	
3147.830	0	31758.72		3097.359	0	32276.20	
3147.788	0	31759.14		3095.588	0	32294.67	
				3095.564	5 * _r	32294.92	38726 _{7/2} — 71021 _{9/2} ^o
				3094.535	1	32305.65	

TABLE 1. *Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued*

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
3092.710	3	32324.72		3066.739	0	32598.45	
3092.561	5	32326.28	36652 _{5/2} — 68978 _{5/2} ^o	3066.710	150 * <i>r</i>	32598.76	30994 _{9/2} — 63593 _{9/2} ^o
3091.957	7	32332.59	34520 _{5/2} — 66852 _{7/2} ^o				
3091.755	3	32334.70	36652 _{5/2} — 68987 _{7/2} ^o	3063.844	1	32629.25	
3091.427	6	32338.13	36640 _{7/2} — 68978 _{5/2} ^o	3063.637	7 <i>c</i>	32631.46	
3090.611	6	32346.67	36640 _{7/2} — 68987 _{7/2} ^o	3063.178	9 <i>c</i>	32636.35	28720 _{9/2} — 61357 _{9/2} ^o
3089.060	4	32362.91					
3088.304	9 <i>w</i>	32370.83	35024 _{7/2} — 67395 _{5/2} ^o	3061.277	9 * <i>v</i>	32656.61	45807 _{3/2} — 78463 _{7/2} ^o
3087.974	3	32374.29	35024 _{7/2} — 67398 _{9/2} ^o	3061.222	0	32657.20	
3087.175	1 * <i>r</i>	32382.56	52026 _{3/2} — 84409 _{3/2} ^o	3061.177	0	32657.68	
3084.987	4	32405.64		3061.142	0	32658.05	
3084.110	8 * <i>v</i>	32414.85	34825 _{7/2} — 67240 _{7/2} ^o	3061.060	7 <i>w</i>	32658.93	
3084.077	0	32415.20					
3083.356	9 <i>w</i>	32422.78	34520 _{5/2} — 66943 _{5/2} ^o	3058.964	0	32681.30	
3083.041	7 <i>d</i>	32426.09		3058.936	0	32681.60	
3082.974	8	32426.79		3058.901	150 * <i>r</i>	32681.98	33466 _{11/2} — 66148 _{13/2} ^o
3082.152	3	32435.44					
3082.074	9 <i>c</i>	32436.26		3058.393	1	32687.41	
				3058.295	1	32688.45	
3080.264	0	32455.32		3057.669	1	32695.15	
3080.236	0	32455.62		3057.480	7	32697.17	35828 _{9/2} — 68525 _{11/2} ^o
3080.203	150 * <i>r</i>	32455.97	33466 _{11/2} — 65922 _{11/2} ^o	3056.080	7 <i>w</i>	32712.14	39024 _{9/2} — 71736 _{11/2} ^o
3079.079	0	32467.81		3055.299	70 * <i>v</i>	32720.51	28885 _{9/2} — 61605 _{7/2} ^o
3079.039	9 * <i>r</i>	32468.23	45844 _{3/2} — 78312 _{1/2} ^o	3055.268	0	32720.84	
				3055.242	0	32721.12	
3078.685	70 * <i>v</i>	32471.97	28885 _{9/2} — 61357 _{9/2} ^o	3055.016	5	32723.54	29835 _{9/2} — 62558 _{11/2} ^o
3078.656	0	32472.27		3053.897	1	32735.53	
3078.631	0	32472.54		3053.475	4	32740.05	
				3053.273	8	32742.22	
3076.232	8 <i>w</i>	32497.86	36640 _{7/2} — 69138 _{9/2} ^o	3053.209	8	32742.90	
				3051.019	2 <i>w</i>	32766.40	36642 _{13/2} — 69408 _{11/2} ^o
3076.051	0	32499.77					
3076.027	0	32500.03		3050.335	0	32773.75	
3075.993	0	32500.38		3050.303	120 * <i>r</i>	32774.10	30994 _{9/2} — 63768 _{7/2} ^o
3075.962	7 * <i>r</i>	32500.71	33466 _{11/2} — 65967 _{13/2} ^o				
				3050.087	0	32776.42	
3075.174	1	32509.04		3050.060	0	32776.71	
				3050.018	8 * <i>r</i>	32777.16	
3073.175	0	32530.19		3048.070	8 * <i>v</i>	32798.10	50227 _{3/2} — 83025 _{3/2} ^o
3073.156	9 * <i>r</i>	32530.39	35801 _{7/2} — 68331 _{7/2} ^o	3048.000	0	32798.86	
3071.659	7 <i>d</i>	32546.24		3047.943	0	32799.47	
3070.673	9 <i>c</i>	32556.69		3047.918	0	32799.74	
3070.246	0	32561.22		3047.789	3	32801.13	
3070.199	4 * <i>r</i>	32561.72	35801 _{7/2} — 68331 _{7/2} ^o	3047.774	5	32801.29	
				3047.277	4	32806.64	
3069.954	0	32564.31		3047.045	0	32809.14	
3069.925	0	32564.62		3047.016	0	32809.45	
3069.882	8 * <i>r</i>	32565.08		3046.983	70 * <i>r</i>	32809.81	38726 _{7/2} — 71536 _{5/2} ^o
3069.601	4	32568.06	39024 _{9/2} — 71592 _{9/2} ^o				
				3045.875	0	32821.74	
3069.397	0	32570.22		3045.846	0	32822.05	
3069.358	0	32570.64		3045.812	100 * <i>r</i>	32822.42	30994 _{9/2} — 63816 _{11/2} ^o
3069.311	8 * <i>r</i>	32571.14	33338 _{3/2} — 65909 _{5/2} ^o				
				3044.867	3 <i>c</i>	32832.60	
3069.158	9 <i>d</i>	32572.76	38448 _{9/2} — 71021 _{9/2} ^o	3044.579	2 <i>c</i>	32835.71	
3069.048	9 <i>c</i>	32573.93		3044.169	7	32840.13	
3068.383	9 <i>c</i>	32580.99	35384 _{5/2} — 67965 _{3/2} ^o	3043.770	1	32844.44	
3067.280	4	32592.70		3043.598	9 <i>w</i>	32846.29	35024 _{7/2} — 67870 _{9/2} ^o
				3043.010	4 <i>w</i>	32852.64	

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
3042.350	100 * _v	32859.77	30733 _{11/2} — 63593 _{9/2}	3024.341	0	33055.43	
3042.309	0	32860.21		3024.309	0	33055.78	
3042.273	0	32860.60		3024.275	30 * _r	33056.15	50647 _{11/2} — 83703 _{13/2}
3042.241	0	32860.94					
				3022.823	2 _w	33072.03	
3041.855	0	32865.11		3021.912	5	33082.00	45807 _{5/2} — 78889 _{3/2}
3041.820	0	32865.49					
3041.781	60 * _r	32865.91	38726 _{7/2} — 71592 _{9/2}	3021.772	70 * _v	33083.53	35291 _{9/2} — 68374 _{9/2}
				3021.744	0	33083.84	
3040.938	60 _c	32875.02	34520 _{5/2} — 67395 _{5/2}	3021.706	0	33084.25	
3040.017	70	32884.98	28720 _{9/2} — 61605 _{7/2}	3021.675	0	33084.59	
3039.680	7	32888.63	45805 _{9/2} — 78694 _{11/2}				
3037.616	2	32910.98		3021.392	5	33087.69	30505 _{11/2} — 63593 _{9/2}
3036.913	8	32918.59	44903 _{5/2} — 77822 _{5/2}				
3036.213	3	32926.18		3019.571	0	33107.64	
				3019.541	0	33107.97	
3034.281	0	32947.15	35291 _{9/2} — 68238 _{11/2}	3019.516	20 * _r	33108.25	35384 _{5/2} — 68492 _{7/2}
3034.267	0	32947.30					
3034.247	90 * _r	32947.52	35384 _{5/2} — 68331 _{7/2}	3018.701	20 * _v	33117.19	51312 _{5/2} — 84430 _{7/2}
				3018.650	0	33117.74	
3034.144	9 * _v	32948.63	50658 _{13/2} — 83607 _{11/2}	3018.607	0	33118.22	
3034.110	0	32949.00					
3034.077	0	32949.36		3016.259	90 * _v	33144.00	38448 _{9/2} — 71592 _{9/2}
3034.048	0	32949.68		3016.216	0	33144.47	
3033.346	0	32957.30		3015.197	0	33155.67	
3033.309	100 * _r	32957.70	28399 _{7/2} — 61357 _{9/2}	3015.164	0	33156.03	
				3015.134	100 * _r	33156.36	30994 _{9/2} — 64150 _{11/2}
3033.166	0	32959.26					
3033.134	0	32959.61		3014.915	6 _d	33158.77	
3033.099	9 * _r	32959.99	50647 _{11/2} — 83607 _{11/2}				
				3014.605	90 * _v	33162.18	32760 _{13/2} — 65922 _{11/2}
3031.882	9 _w	32973.22	35828 _{9/2} — 68801 _{7/2}	3014.565	0	33162.62	
3031.750	3	32974.65		3014.529	0	33163.02	
3031.143	1 _d	32981.25					
3030.717	2 _c	32985.89	33338 _{3/2} — 66324 _{1/2}	3013.733	9 _w	33171.77	
3029.996	6	32993.74		3013.258	40 _c	33177.00	35801 _{7/2} — 68978 _{5/2}
3029.403	0	33000.20		3013.210	20 * _v	33177.53	28885 _{9/2} — 62062 _{9/2}
3029.376	100 * _r	33000.49	35801 _{7/2} — 68801 _{7/2}	3013.181	0	33177.85	
				3013.159	0	33178.09	
3027.977	2 _w	33015.74	36670 _{11/2} — 69686 _{9/2}				
				3012.489	0	33185.47	
3027.481	20 * _v	33021.15	33659 _{5/2} — 66681 _{5/2}	3012.455	10 * _r	33185.85	35801 _{7/2} — 68987 _{7/2}
3027.432	0	33021.68					
3027.104	2	33025.26		3011.816	4 * _v	33192.89	33659 _{5/2} — 66852 _{7/2}
3027.069	3 _w	33025.64		3011.769	0	33193.41	
3026.652	1	33030.19		3011.729	0	33193.85	
3026.223	3	33034.87	38701 _{13/2} — 71736 _{11/2}				
3025.804	7 _w	33039.45	27380 _{11/2} — 60419 _{11/2}	3011.282	20 * _v	33198.77	50227 _{3/2} — 83426 _{5/2}
				3011.221	0	33199.45	
				3011.175	0	33199.95	
3025.684	2 * _v	33040.76	35291 _{9/2} — 68331 _{7/2}				
3025.638	0	33041.26		3010.612	150 * _r	33206.16	28399 _{7/2} — 61605 _{7/2}
3025.596	0	33041.72		3010.477	10 _c	33207.65	33659 _{5/2} — 66867 _{3/2}
3025.560	0	33042.11					
3025.527	0	33042.47		3008.040	150 * _v	33234.55	35291 _{9/2} — 68525 _{11/2}
				3007.997	0	33235.03	
3025.366	2 _d	33044.23		3007.959	0	33235.45	
				3007.909	0	33236.00	
3025.262	70 * _v	33045.37	34825 _{7/2} — 67870 _{9/2}				
3025.232	0	33045.69		3007.484	0	33240.70	
				3007.456	40 * _r	33241.01	30994 _{9/2} — 64235 _{9/2}
3024.624	1	33052.34					

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
3006.533	0	33251.21		2988.941	3 w	33446.91	
3006.503	0	33251.54		2987.062	9 w	33467.95	35024 _{7/2} — 68492 _{7/2} ^o
3006.469	60 *r	33251.92	38726 _{7/2} — 71978 _{7/2} ^o	2985.818	500 *v	33481.89	30733 _{11/2} — 64215 _{13/2} ^o
3004.925	0	33269.00		2985.783	0	33482.28	
3004.897	20 *r	33269.31	33466 _{11/2} — 66735 _{13/2} ^o	2985.752	0	33482.63	
3004.306	9 *v	33275.86		2985.729	0	33482.89	
3004.254	0	33276.43		2985.713	0	33483.07	
3004.208	0	33276.94		2985.699	0	33483.23	
3004.084	0	33278.32		2985.342	6 w	33487.23	
3004.048	0	33278.72		2984.927	5 c	33491.89	
3004.002	10 *r	33279.23	52026 _{3/2} — 85306 _{5/2} ^o	2984.886	5 c	33492.35	
3003.659	9 *v	33283.03	33659 _{5/2} — 66943 _{5/2} ^o	2984.293	3	33499.00	
3003.608	0	33283.59		2984.026	9 *v	33502.00	30733 _{11/2} — 64235 _{9/2} ^o
3003.569	0	33284.02		2983.987	0	33502.44	
3003.203	150 *v	33288.08	38448 _{9/2} — 71736 _{11/2} ^o	2983.950	0	33502.85	
3003.161	0	33288.54		2983.918	0	33503.21	
3003.126	0	33288.93		2983.660	40 *v	33506.11	34825 _{7/2} — 68331 _{7/2} ^o
3002.845	10 c	33292.05		2983.624	0	33506.51	
3002.527	9 w	33295.57	29263 _{13/2} — 62558 _{11/2} ^o	2983.257	9 *v	33510.63	35291 _{9/2} — 68801 _{7/2} ^o
3002.106	2 w	33300.24	38694 _{5/2} — 71994 _{5/2} ^o	2983.216	0	33511.09	
3001.894	1	33302.59		2983.176	0	33511.54	
3001.478	20 w	33307.21	35024 _{7/2} — 68331 _{7/2} ^o	2982.830	7	33515.43	
3001.245	4	33309.79	35828 _{9/2} — 69138 _{9/2} ^o	2982.416	150 c	33520.08	28720 _{9/2} — 62240 _{11/2} ^o
3001.121	6 w	33311.17	30505 _{11/2} — 63816 _{11/2} ^o	2982.288	0	33521.52	
3000.877	4	33313.88		2982.236	9 *r	33522.11	45844 _{3/2} — 79366 _{5/2} ^o
3000.494	0	33318.13		2981.654	100 *r	33528.65	33338 _{3/2} — 66867 _{3/2} ^o
3000.460	150 *r	33318.51	28399 _{7/2} — 61717 _{5/2} ^o	2981.527	9 *v	33530.08	38448 _{9/2} — 71978 _{7/2} ^o
2998.816	0	33336.77		2981.482	0	33530.58	
2998.791	70 *r	33337.05	35801 _{7/2} — 69138 _{9/2} ^o	2981.446	0	33530.99	
2998.354	9	33341.91	28720 _{9/2} — 62062 _{9/2} ^o	2981.201	6 *r	33533.74	
2997.621	7	33350.06	35024 _{7/2} — 68374 _{9/2} ^o	2980.607	5 c	33540.43	50869 _{1/2} — 84409 _{3/2} ^o
2997.116	150 *v	33355.68	28885 _{9/2} — 62240 _{11/2} ^o	2980.583	5 *r	33540.70	50869 _{1/2} — 84409 _{3/2} ^o
2997.088	0	33355.99		2980.537	500 *v	33541.21	32760 _{13/2} — 66301 _{15/2} ^o
2997.067	0	33356.23		2980.503	0	33541.60	
2996.053	1	33367.52		2980.470	0	33541.97	
2995.827	3	33370.03	24788 _{9/2} — 58158 _{7/2} ^o	2979.795	8 c	33549.56	34825 _{7/2} — 68374 _{9/2} ^o
2995.735	4	33371.06		2979.358	6	33554.48	
2995.641	9 w	33372.11		2979.281	7 w	33555.35	
2995.510	9 w	33373.56		2978.907	9 *v	33559.56	45807 _{5/2} — 79366 _{5/2} ^o
2994.775	7	33381.76	27138 _{7/2} — 60520 _{7/2} ^o	2978.858	0	33560.12	
2994.201	20 *v	33388.15	32760 _{13/2} — 66148 _{13/2} ^o	2978.813	0	33560.62	
2994.162	0	33388.59		2977.062	150 *v	33580.36	33659 _{5/2} — 67240 _{7/2} ^o
2994.128	0	33388.97		2977.018	0	33580.86	
2993.020	4	33401.33		2976.860	150 *r	33582.64	33466 _{11/2} — 67049 _{9/2} ^o
2991.745	8	33415.56	29263 _{13/2} — 62678 _{13/2} ^o	2976.347	40 *v	33588.43	45807 _{5/2} — 79395 _{7/2} ^o
2991.585	20 *v	33417.35	30733 _{11/2} — 64150 _{11/2} ^o	2976.294	0	33589.03	
2991.550	0	33417.74		2976.254	0	33589.48	
2991.519	0	33418.09		2975.837	20 *r	33594.18	35384 _{5/2} — 68978 _{5/2} ^o
2991.221	2	33421.42					
2989.095	20 w	33445.19	34520 _{5/2} — 67965 _{5/2} ^o				

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
2975.096	8	33602.55	35828 _{9/2} — 69431 _{7/2} ^o	2951.166	0	33875.01	
2974.951	0	33604.19		2950.487	1	33882.81	
2974.912	9 * _r	33604.63	33338 _{3/2} — 66943 _{5/2} ^o	2950.325	9 _c	33884.67	35801 _{7/2} — 69686 _{9/2} ^o
2973.838	9 _w	33616.77	37919 _{7/2} — 71536 _{5/2} ^o	2947.767	3 _c	33914.07	
2972.713	8 _c	33629.49	35801 _{7/2} — 69431 _{7/2} ^o	2946.729	6	33926.02	
2972.557	3 _c	33631.25		2946.207	0	33932.03	
2971.330	8 _w	33645.14	30505 _{11/2} — 64150 _{11/2} ^o	2946.175	8 * _r	33932.40	33466 _{11/2} — 67398 _{9/2} ^o
2970.814	7 _c	33650.98	28885 _{9/2} — 62535 _{9/2} ^o	2946.076	8 _w	33933.54	29835 _{9/2} — 63768 _{7/2} ^o
2969.988	6	33660.34		2945.985	2 _w	33934.58	
2969.793	0	33662.55		2945.889	4	33935.69	
2969.766	0	33662.86		2944.426	3	33952.55	
2969.728	40 * _r	33663.29	28399 _{7/2} — 62062 _{9/2} ^o	2943.555	2	33962.60	35024 _{7/2} — 68987 _{7/2} ^o
2969.412	80 * _v	33666.87	34825 _{7/2} — 68492 _{7/2} ^o	2943.517	4	33963.03	
2969.376	0	33667.28		2942.814	5 _w	33971.15	
2969.347	0	33667.61		2942.728	9 _w	33972.14	34520 _{3/2} — 68492 _{7/2} ^o
2968.833	150 * _v	33673.44	28885 _{9/2} — 62558 _{11/2} ^o	2942.427	70 * _v	33975.62	32760 _{13/2} — 66735 _{13/2} ^o
2968.797	0	33673.84		2942.387	0	33976.08	
2967.598	6	33687.45		2940.896	7 * _v	33993.30	51312 _{5/2} — 85306 _{5/2} ^o
2965.643	9 _w	33709.66	30505 _{11/2} — 64215 _{13/2} ^o	2940.845	0	33993.89	
2964.848	90 * _v	33718.69	34825 _{7/2} — 68544 _{9/2} ^o	2940.803	0	33994.38	
2964.817	0	33719.05		2940.064	4 _c	34002.92	
2964.516	7 _w	33722.47		2937.207	5	34035.99	32288 _{3/2} — 66324 _{1/2} ^o
2964.313	8 _w	33724.78	31254 _{7/2} — 64979 _{7/2} ^o	2937.006	2 _w	34038.32	
2963.804	3	33730.57		2936.696	0	34041.92	
2963.390	20 * _v	33735.28	33659 _{5/2} — 67395 _{5/2} ^o	2936.633	3 * _r	34042.65	
2963.344	0	33735.81		2936.329	0	34046.17	
2963.032	2	33739.36	36642 _{13/2} — 70381 _{13/2} ^o	2936.312	0	34046.37	
2962.915	2 _w	33740.69		2936.285	7 * _r	34046.68	35384 _{5/2} — 69431 _{7/2} ^o
2961.380	9 _w	33758.18	29835 _{9/2} — 63593 _{9/2} ^o	2935.442	0	34056.46	
2960.947	30 * _r	33763.12	50647 _{11/2} — 84410 _{9/2} ^o	2935.401	20 * _r	34056.93	33338 _{3/2} — 67395 _{5/2} ^o
2960.621	3 _w	33766.83	34198 _{1/2} — 67965 _{3/2} ^o	2935.235	6	34058.86	
2960.140	5	33772.32		2933.827	1	34075.20	37919 _{7/2} — 71994 _{5/2} ^o
2959.717	8 _w	33777.15	35024 _{7/2} — 68801 _{7/2} ^o	2932.479	1 _w	34090.87	
2959.139	3	33783.74		2932.167	3	34094.50	
2956.717	20	33811.42	34520 _{5/2} — 68331 _{7/2} ^o	2930.513	7	34113.74	35024 _{7/2} — 69138 _{9/2} ^o
2956.416	4	33814.86	28720 _{9/2} — 62535 _{9/2} ^o	2930.410	3 _c	34114.94	
2956.294	1	33816.25		2930.192	50 * _v	34117.47	35291 _{9/2} — 69408 _{11/2} ^o
2956.133	1	33818.10		2930.150	0	34117.96	
2955.951	5	33820.18		2930.113	0	34118.39	
2955.160	3	33829.23		2930.084	0	34118.73	
2954.805	4 _w	33833.29		2929.701	1 _w	34123.19	
2954.396	90 _w	33837.98	28720 _{9/2} — 62558 _{11/2} ^o	2928.986	20 * _v	34131.52	30733 _{11/2} — 64865 _{11/2} ^o
2953.584	70 * _v	33847.28	35291 _{9/2} — 69138 _{9/2} ^o	2928.945	0	34132.00	
2953.544	0	33847.74		2928.910	0	34132.41	
2952.669	9 _w	33857.77	35828 _{9/2} — 69686 _{9/2} ^o	2928.880	0	34132.76	
2952.248	6 * _r	33862.60	71592 _{9/2} — 105450 _{11/2} ^o	2928.262	4	34139.96	35291 _{9/2} — 69431 _{7/2} ^o
2951.584	0	33870.21	30994 _{9/2} — 64857 _{9/2} ^o	2928.225	3	34140.39	
2951.559	9 * _r	33870.50		2928.130	4 _c	34141.50	
2951.254	4 * _v	33874.00		2927.905	1	34144.12	
2951.203	0	33874.59		2927.435	2 _w	34149.60	35828 _{9/2} — 69978 _{11/2} ^o

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
2926.998	6 w	34154.70		2892.729	2 w	34559.30	
2926.863	7	34156.28		2890.842	2 w	34581.86	39024 _{9/2} - 73606 _{9/2}
2926.739	2 w	34157.72		2889.580	1	34596.96	
2926.414	7 *v	34161.52	34825 _{7/2} - 68987 _{7/2}	2889.217	5	34601.31	
2924.661	2 *v	34181.99	50227 _{3/2} - 84409 _{3/2}	2888.874	6 *v	34605.42	34825 _{7/2} - 69431 _{7/2}
2924.595	0	34182.76		2888.839	0	34605.83	
2924.547	0	34183.33					
2924.526	0	34183.57		2888.146	3	34614.14	
				2887.227	6	34625.16	23532 _{5/2} - 58158 _{7/2}
2924.352	5	34185.60					
2921.545	7	34218.45	27138 _{7/2} - 61357 _{9/2}	2887.136	0	34626.25	
2920.069	2 c	34235.74		2887.112	0	34626.53	
2916.183	9 w	34281.36	34520 _{5/2} - 68801 _{7/2}	2887.075	2 *r	34626.98	33338 _{3/2} - 67965 _{3/2}
2915.887	6	34284.84	28936 _{3/2} - 63221 _{3/2}				
				2886.856	4 c	34629.60	
2914.542	0	34300.66		2886.278	5 w	34636.54	27604 _{9/2} - 62240 _{11/2}
2914.520	0	34300.92					
2914.489	100 *r	34301.29	30994 _{9/2} - 65295 _{7/2}	2885.039	0	34651.41	
				2885.001	6 *r	34651.87	38726 _{7/2} - 73378 _{7/2}
2914.143	10 *v	34305.36	33659 _{5/2} - 67965 _{3/2}				
2914.093	0	34305.95		2883.351	6 *v	34671.70	33659 _{5/2} - 68331 _{7/2}
2914.058	0	34306.36		2883.306	0	34672.24	
				2883.267	0	34672.71	
2913.885	6	34308.40	29267 _{5/2} - 63576 _{5/2}				
2911.770	50 *v	34333.32	50658 _{13/2} - 84992 _{15/2}	2882.618	8	34680.51	31254 _{7/2} - 65935 _{7/2}
2911.377	6 w	34337.95	68492 _{7/2} - 102830 _{9/2}	2882.466	7	34682.34	27380 _{11/2} - 62062 _{9/2}
2911.210	7	34339.92					
2911.061	6 w	34341.68		2882.081	7 *v	34686.98	35291 _{9/2} - 69978 _{11/2}
2910.893	1	34343.66		2882.036	0	34687.52	
2910.612	70 *v	34346.98	28885 _{9/2} - 63232 _{7/2}	2881.999	0	34687.96	
2910.351	5 d	34350.06		2881.969	0	34688.32	
2910.237	8	34351.40	30505 _{11/2} - 64857 _{9/2}				
2909.732	3 d	34357.36		2880.974	4 w	34700.30	
2909.556	6	34359.44	30505 _{11/2} - 64865 _{11/2}	2880.729	1 c	34703.25	
2909.440	5 *v	34360.81		2880.315	4 *v	34708.24	28885 _{9/2} - 63593 _{9/2}
2909.384	0	34361.47		2880.283	0	34708.63	
2909.340	0	34361.99					
2908.971	3	34366.35		2879.703	8 w	34715.62	44679 _{7/2} - 79395 _{9/2}
2908.666	1 w	34369.95		2878.227	1 w	34733.42	
2908.599	5	34370.75		2876.325	7	34756.39	25409 _{7/2} - 60166 _{9/2}
2908.139	4	34376.18		2876.229	1 w	34757.55	69138 _{9/2} - 103895 _{7/2}
2906.507	2 w	34395.48		2876.045	4	34759.77	
2906.416	7	34396.56		2870.574	1	34826.02	
2906.252	1	34398.50					
2906.081	5	34400.53	29835 _{9/2} - 64235 _{9/2}	2870.080	0	34832.01	
2905.768	5 *r	34404.23	33466 _{11/2} - 67870 _{9/2}	2870.053	0	34832.34	
2905.577	2	34406.49	35024 _{7/2} - 69431 _{7/2}	2870.022	9 *r	34832.71	28399 _{7/2} - 63232 _{7/2}
2905.539	2	34406.94					
2903.545	6	34430.57		2869.458	2 c	34839.56	
2901.212	6	34458.26	34520 _{5/2} - 68978 _{5/2}	2868.225	5 *v	34854.54	
2900.788	2 w	34463.29	44903 _{5/2} - 79366 _{5/2}	2868.191	0	34854.95	
2900.493	5	34466.80	34520 _{5/2} - 68987 _{7/2}	2868.159	0	34855.34	
2899.843	5	34474.52					
2899.644	2	34476.89		2867.620	7 c	34861.89	34825 _{7/2} - 69686 _{9/2}
2899.583	4	34477.61					
2898.607	1 w	34489.22		2865.845	4 *v	34883.48	28885 _{9/2} - 63768 _{7/2}
2897.636	4	34500.78	29267 _{5/2} - 63768 _{7/2}	2865.815	0	34883.85	
2897.182	3	34506.19	23651 _{7/2} - 58158 _{7/2}				
2895.938	3	34521.01		2865.489	3	34887.81	29263 _{13/2} - 64150 _{11/2}
2895.650	2	34524.44	37011 _{5/2} - 71536 _{5/2}	2864.817	5	34896.00	36640 _{7/2} - 71536 _{5/2}
2893.186	3	34553.84	29263 _{13/2} - 63816 _{11/2}	2863.821	4 *r	34908.13	33466 _{11/2} - 68374 _{9/2}
2893.103	9 w	34554.83	45805 _{9/2} - 80360 _{11/2}	2863.545	7 *r	34911.50	

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
2862.281	1*v	34926.91		2827.985	9*v	35350.46	28885 _{9/2} - 64235 _{9/2}
2861.874	9*v	34931.88	28885 _{9/2} - 63816 _{11/2}	2827.954	0	35350.85	
2861.848	0	34932.20		2827.927	0	35351.19	
2861.165	7*r	34940.54	30994 _{9/2} - 65935 _{9/2}	2827.668	3	35354.43	36640 _{7/2} - 71994 _{5/2}
2860.216	5c	34952.13		2827.543	3w	35355.99	
2860.034	3	34954.35	27604 _{9/2} - 62558 _{11/2}	2827.078	2w	35361.81	
2859.032	1w	34966.60	37011 _{5/2} - 71978 _{9/2}	2825.772	7	35378.15	24788 _{9/2} - 60166 _{9/2}
2858.403	2d	34974.30		2824.468	1w	35394.48	
2857.700	4	34982.90	37011 _{5/2} - 71994 _{9/2}	2823.180	3c	35410.63	38694 _{5/2} - 74105 _{5/2}
2857.546	3	34984.79	39120 _{9/2} - 74105 _{5/2}				
2855.494	1	35009.92		2822.847	9*v	35414.80	30733 _{11/2} - 66148 _{13/2}
2853.250	3*r	35037.46		2822.815	0	35415.21	
2852.392	3	35048.00	28720 _{9/2} - 63768 _{7/2}	2822.783	0	35415.61	
				2822.758	0	35415.92	
2851.513	0	35058.80		2821.133	1w	35436.32	
2851.486	6*r	35059.13	33466 _{11/2} - 68525 _{11/2}	2819.342	2w	35458.83	37919 _{7/2} - 73378 _{7/2}
2850.921	1w	35066.08		2819.084	2w	35462.07	40098 _{5/2} - 75560 _{5/2}
2850.198	2c	35074.97		2817.018	1w	35488.08	
				2814.884	6	35514.98	28720 _{9/2} - 64235 _{9/2}
2850.048	0	35076.82		2814.244	1w	35523.06	
2850.026	0	35077.09		2813.739	1	35529.44	73029 _{9/2} - 108559 _{11/2}
2850.002	0	35077.39					
2849.977	5*r	35077.69	33466 _{11/2} - 68544 _{9/2}	2812.509	9*v	35544.97	32760 _{13/2} - 68305 _{15/2}
				2812.472	0	35545.44	
2848.618	2w	35094.43		2812.438	0	35545.87	
2848.476	7	35096.18	28720 _{9/2} - 63816 _{11/2}	2812.406	0	35546.27	
2848.049	1	35101.44		2812.385	0	35546.54	
2847.966	1	35102.46	69686 _{9/2} - 104788 _{11/2}	2812.367	0	35546.77	
2844.088	2	35150.32					
2843.408	1w	35158.73	26446 _{7/2} - 61605 _{7/2}	2811.855	1	35553.24	
				2808.307	6	35598.16	31254 _{7/2} - 66852 _{7/2}
2841.975	0	35176.46		2807.995	4	35602.11	29263 _{13/2} - 64865 _{11/2}
2841.939	20*r	35176.90	28399 _{7/2} - 63576 _{5/2}	2805.662	7	35631.71	24788 _{9/2} - 60419 _{11/2}
				"			66852 _{7/2} - 102484 _{9/2}
2841.822	8	35178.35	27380 _{11/2} - 62558 _{11/2}	2804.502	2	35646.45	22527 _{7/2} - 58174 _{9/2}
2841.560	1	35181.59		2803.090	3	35664.41	48745 _{5/2} - 84409 _{3/2}
2840.977	8*v	35188.81	30733 _{11/2} - 65922 _{11/2}	2802.538	0	35671.43	
2840.940	0	35189.27		2802.510	9*r	35671.79	33466 _{11/2} - 69138 _{9/2}
2840.908	0	35189.67					
2840.880	0	35190.01		2802.039	7	35677.78	
				2797.924	1c	35730.25	65935 _{7/2} - 101665 _{5/2}
2840.586	2	35193.66		2797.161	2w	35740.00	
2839.540	5c	35206.62					
2838.461	7*r	35220.00	35801 _{7/2} - 71021 _{9/2}	2795.176	9*v	35765.38	32760 _{13/2} - 68525 _{11/2}
				2795.142	0	35765.81	
2838.012	0	35225.57					
2837.982	0	35225.95		2793.354	1	35788.70	
2837.949	2*r	35226.36		2792.902	9w	35794.50	31254 _{7/2} - 67049 _{9/2}
				2786.974	7	35870.63	
2837.368	9*v	35233.57	30733 _{11/2} - 65967 _{13/2}	2784.154	1	35906.96	39732 _{11/2} - 75640 _{11/2}
2837.333	0	35234.00		2782.826	2	35924.09	39485 _{1/2} - 75409 _{3/2}
2837.301	0	35234.40		2782.742	2	35925.18	
2837.276	0	35234.71					
				2779.351	0	35969.01	
2835.995	1	35250.63	70381 _{13/2} - 105632 _{13/2}	2779.325	0	35969.34	
2835.185	5	35260.70		2779.292	5*r	35969.77	
2835.096	3	35261.80	26095 _{11/2} - 61357 _{9/2}				
2834.721	2d	35266.47		2779.076	5d	35972.57	
2831.148	2	35310.97	40098 _{5/2} - 75409 _{3/2}	2778.453	3c	35980.63	28885 _{9/2} - 64865 _{11/2}
2829.802	2c	35327.77	33659 _{5/2} - 68987 _{7/2}	2778.065	2	35985.66	31254 _{7/2} - 67240 _{7/2}
2828.974	3	35338.11	36640 _{7/2} - 71978 _{7/2}	2777.802	2	35989.06	27604 _{9/2} - 63593 _{9/2}

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
2777.289	2	35995.71		2725.966	5	36673.38	
2776.868	7 _c	36001.17	35384 _{5/2} - 71385 _{7/2}	2725.414	2	36680.81	
2776.729	1 _c	36002.97	30733 _{11/2} - 66735 _{13/2}	2724.030	100 _w	36699.45	25979 _{15/2} - 62678 _{13/2}
2776.318	4	36008.30	48401 _{3/2} - 84409 _{5/2}	2723.656	3	36704.48	
2775.979	4	36012.70		2722.161	9 _w	36724.64	44679 _{7/2} - 81404 _{5/2}
2775.210	4	36022.68		2721.077	8 _w	36739.27	21418 _{5/2} - 58158 _{7/2}
2774.794	6	36028.08	29267 _{5/2} - 65295 _{7/2}	2720.689	3	36744.51	
2774.708	4	36029.19	39732 _{11/2} - 75762 _{9/2}	2720.409	1 _w	36748.29	66735 _{13/2} - 103484 _{15/2}
2772.439	9	36058.68		2720.171	7	36751.51	
2770.239	4	36087.31	29835 _{9/2} - 65922 _{11/2}	2720.087	5	36752.64	
2769.789	5 _c	36093.17	22080 _{7/2} - 58174 _{9/2}	2718.890	3 _w	36768.82	
2767.995	2	36116.57		2718.755	8 _w	36770.65	27380 _{11/2} - 64150 _{11/2}
2766.880	3	36131.12	35863 _{3/2} - 71994 _{5/2}	2718.654	20 _w	36772.01	23647 _{13/2} - 60419 _{11/2}
2766.470	9 _w	36136.47		2718.516	3 _c	36773.88	
2765.858	6	36144.47	28720 _{9/2} - 64865 _{11/2}	2715.944	5	36808.70	
2765.771	2	36145.61	26095 _{11/2} - 62240 _{11/2}	2715.459	1	36815.28	64865 _{11/2} - 101680 _{13/2}
2765.426	7	36150.12	35828 _{9/2} - 71978 _{7/2}	2714.111	4	36833.56	66148 _{13/2} - 102981 _{13/2}
2765.353	1 _w	36151.07		"			71021 _{9/2} - 107854 _{9/2}
2762.344	9	36190.45		2712.504	5	36855.38	27380 _{11/2} - 64235 _{9/2}
2762.127	6 _d	36193.29		2712.384	2	36857.01	35137 _{3/2} - 71994 _{5/2}
2762.002	5	36194.93		2712.180	1	36859.78	
2761.209	3	36205.32		2711.928	9 _w	36863.21	21294 _{7/2} - 58158 _{7/2}
2760.617	9 _w	36213.09	27380 _{11/2} - 63593 _{9/2}	2711.704	5	36866.25	38694 _{5/2} - 75560 _{5/2}
2760.143	8 _c	36219.30	33466 _{11/2} - 69686 _{9/2}	2711.546	2	36868.40	23651 _{7/2} - 60520 _{7/2}
2759.314	2	36230.19	30505 _{11/2} - 66735 _{13/2}	2711.005	3 _c	36875.76	30994 _{9/2} - 67870 _{9/2}
2758.160	6 _c	36245.34	30994 _{9/2} - 67240 _{7/2}	2710.997	4 _w	36875.87	
2757.129	8 _c	36258.90	28720 _{9/2} - 64979 _{7/2}	2710.745	9 _w	36879.29	21294 _{7/2} - 58174 _{9/2}
2755.699	2	36277.71		2710.300	40 _w	36885.35	29263 _{13/2} - 66148 _{13/2}
2755.536	1	36279.86		2710.133	3 _c	36887.62	38726 _{7/2} - 75614 _{5/2}
2754.970	3 _w	36287.31	66148 _{13/2} - 102435 _{11/2}	2709.728	4	36893.13	30505 _{11/2} - 67398 _{9/2}
2753.839	3 _d	36302.21		2709.532	2 _c	36895.80	28399 _{7/2} - 65295 _{7/2}
2752.765	5 _d	36316.37		2708.660	1	36907.68	
2752.368	5	36321.61	23844 _{9/2} - 60166 _{9/2}	2708.155	9 _c	36914.56	33466 _{11/2} - 70381 _{13/2}
2752.251	3	36323.16	25033 _{9/2} - 61357 _{9/2}	2707.422	2	36924.56	68525 _{11/2} - 105450 _{11/2}
2746.249	7	36402.54		2707.043	1	36929.73	64235 _{9/2} - 101165 _{11/2}
2745.594	4 _c	36411.22	28885 _{9/2} - 65295 _{7/2}	2706.919	1	36931.42	
2745.090	5 _c	36417.91	28399 _{7/2} - 64817 _{5/2}	2706.611	5	36935.62	36670 _{11/2} - 73606 _{9/2}
2744.590	4	36424.54	31254 _{7/2} - 67679 _{7/2}				
2743.680	9	36436.62	27380 _{11/2} - 63816 _{11/2}	2705.782	0	36946.94	
2743.595	9 _w	36437.75	27138 _{7/2} - 63576 _{5/2}	2705.743	2 * _r	36947.47	
2743.406	1	36440.26	39120 _{3/2} - 75560 _{5/2}				
2742.312	7	36454.80	27138 _{7/2} - 63593 _{9/2}	2705.658	4	36948.63	27452 _{5/2} - 64401 _{5/2}
2741.662	4	36463.44	26095 _{11/2} - 62558 _{11/2}	2705.262	6 _d	36954.04	35024 _{7/2} - 71978 _{7/2}
2741.262	1 _w	36468.76	66148 _{13/2} - 102617 _{11/2}	2704.403	1	36965.77	36640 _{7/2} - 73606 _{9/2}
2738.596	6	36504.26	63816 _{11/2} - 100321 _{9/2}	2704.299	5	36967.20	
2736.137	1 _w	36537.06		2703.934	2 _w	36972.19	
2735.652	2	36543.54	30505 _{11/2} - 67049 _{9/2}	2703.544	6	36977.52	23442 _{11/2} - 60419 _{11/2}
2735.402	8	36546.88	21611 _{5/2} - 58158 _{7/2}	2703.156	2	36982.83	
2734.368	8	36560.70	48745 _{5/2} - 85306 _{5/2}	2702.818	6	36987.45	23532 _{5/2} - 60520 _{7/2}
2733.827	1 _w	36567.94		2702.236	6	36995.42	
2733.746	3	36569.02	24788 _{9/2} - 61357 _{9/2}	2702.029	4	36998.25	
2733.281	9 _w	36575.24	28720 _{9/2} - 65295 _{7/2}	2701.410	1	37006.73	
2732.952	1 _w	36579.64	68987 _{7/2} - 105566 _{9/2}	2700.822	1 _w	37014.78	65967 _{13/2} - 102981 _{13/2}
2732.665	7	36583.48	26095 _{11/2} - 62678 _{13/2}	2700.601	4	37017.81	29835 _{9/2} - 66852 _{7/2}
2731.453	1	36599.72					
2731.334	1	36601.31		2699.327	0	37035.28	
2730.422	1	36613.54		2699.300	5 * _r	37035.65	38726 _{7/2} - 75762 _{9/2}
2730.259	3	36615.72	39024 _{9/2} - 75640 _{11/2}				
2729.719	7	36622.96	21535 _{9/2} - 58158 _{7/2}	2699.135	2 _w	37037.92	
2729.185	9 _w	36630.13	27138 _{7/2} - 63768 _{5/2}	2698.182	1 _c	37051.00	
2728.529	8 _w	36638.94	21535 _{9/2} - 58174 _{9/2}	2696.929	1	37068.21	
2728.329	1	36641.62	29267 _{5/2} - 65909 _{5/2}	2695.642	2	37085.91	
2727.888	1 _w	36647.54		2695.599	2	37086.50	
2727.004	9 _w	36659.42	29263 _{13/2} - 65922 _{11/2}	2695.096	3	37093.42	
2726.417	6 * _r	36667.32	29267 _{5/2} - 65935 _{7/2}	2692.741	4	37125.86	25409 _{7/2} - 62535 _{9/2}

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
2691.992	6 *v	37136.19		2661.000	2	37568.68	
2691.513	1	37142.80		2660.871	1	37570.50	64865 _{11/2} ^o - 102435 _{11/2}
2691.395	5	37144.43	24461 _{5/2} - 61605 _{7/2} ^o	2660.404	2	37577.10	
2691.256	4	37146.34	26446 _{7/2} - 63593 _{9/2} ^o	2659.844	1	37585.01	29267 _{5/2} - 66852 _{7/2} ^o
2688.864	8	37179.39		2659.549	2	37589.18	
2688.820	5	37180.00		2658.231	2	37607.81	
2688.186	7	37188.76	65295 _{7/2} ^o - 102484 _{9/2}	2657.402	1	37619.54	64865 _{11/2} ^o - 102484 _{9/2}
				2657.211	1 c	37622.25	
2687.981	6 *v	37191.60	38448 _{9/2} - 75640 _{11/2} ^o	2656.876	20 w	37626.99	
2687.946	0	37192.08		2656.799	4	37628.08	
				2656.063	7	37638.51	22527 _{7/2} - 60166 _{9/2} ^o
2687.506	1 w	37198.17	63232 _{7/2} ^o - 100430 _{9/2}	2655.865	1	37641.31	25934 _{5/2} - 63576 _{5/2} ^o
2687.253	8	37201.68	28720 _{9/2} - 65922 _{11/2} ^o	2653.598	3	37673.47	69408 _{11/2} - 107081 _{9/2}
2686.876	5	37206.89	25033 _{9/2} - 62240 _{11/2} ^o	2653.472	1	37675.26	
2686.455	3	37212.73	63576 _{5/2} ^o - 100788 _{7/2}	2652.933	1 w	37682.91	
2686.356	9 w	37214.10	29835 _{9/2} - 67049 _{5/2} ^o	2650.675	1	37715.01	63232 _{7/2} ^o - 100947 _{9/2}
2685.697	6	37223.23		2650.419	1	37718.65	27138 _{7/2} - 64857 _{9/2} ^o
2685.312	6 c	37228.56	35801 _{7/2} - 73029 _{9/2} ^o	2650.205	5	37721.70	26095 _{11/2} - 63816 _{11/2} ^o
2684.653	3	37237.70	31254 _{7/2} - 68492 _{9/2} ^o	2650.056	1	37723.82	31254 _{7/2} - 68978 _{5/2} ^o
2684.258	8 c	37243.18	30994 _{9/2} - 68238 _{11/2} ^o	2649.854	2 d	37726.69	
2684.151	9 w	37244.67	23175 _{13/2} - 60419 _{11/2} ^o	2649.450	1	37732.45	30505 _{11/2} - 68238 _{11/2} ^o
2683.560	4	37252.87	27604 _{9/2} - 64857 _{9/2} ^o	2648.957	8 w	37739.47	67049 _{9/2} - 104788 _{11/2}
2683.402	1	37255.06		2648.265	2	37749.33	
2683.281	3	37256.74	24461 _{5/2} - 61717 _{5/2} ^o	2648.064	1	37752.20	
2683.123	3	37258.94		2647.343	6	37762.48	62558 _{11/2} ^o - 100321 _{9/2}
2682.984	1	37260.87	27604 _{9/2} - 64865 _{11/2} ^o	2647.019	1	37767.10	68978 _{5/2} - 106745 _{5/2} ^o
2682.864	7	37262.53	27138 _{7/2} - 64401 _{5/2} ^o	2646.767	9 w	37770.69	24788 _{9/2} - 62558 _{11/2} ^o
2682.599	4	37266.21		2645.162	3 w	37793.61	
2681.150	2	37286.35	25934 _{5/2} - 63221 _{3/2} ^o	2645.015	1	37795.71	
2681.001	5	37288.42		2644.615	20 w	37801.43	45805 _{9/2} - 83607 _{11/2} ^o
2680.849	1	37290.54		2644.393	2 c	37804.60	35801 _{7/2} - 73606 _{9/2} ^o
2680.368	1	37297.23	25934 _{5/2} - 63232 _{7/2} ^o	2642.787	6	37827.57	
2679.468	70 w	37309.76	20848 _{5/2} - 58158 _{7/2} ^o	2642.360	3	37833.69	25934 _{5/2} - 63768 _{7/2} ^o
2678.610	3	37321.71	26446 _{7/2} - 63768 _{7/2} ^o	2641.846	3	37841.05	33659 _{5/2} - 71501 _{3/2} ^o
2677.529	6 c	37336.77	30994 _{9/2} - 68331 _{7/2} ^o	"	"	"	27138 _{7/2} - 64979 _{7/2} ^o
2677.290	1 w	37340.11		2641.745	1	37842.49	20315 _{9/2} - 58158 _{7/2} ^o
2676.692	4	37348.45	63816 _{11/2} ^o - 101165 _{11/2} ^o	2640.290	4 w	37863.35	68801 _{7/2} - 106665 _{7/2} ^o
2675.499	5	37365.10	27452 _{5/2} ^o - 64817 _{5/2} ^o	2639.904	8	37868.88	30505 _{11/2} - 68374 _{9/2} ^o
"			30505 _{11/2} - 67870 _{9/2} ^o	2639.803	4	37870.33	
2674.811	2	37374.71		2639.703	2	37871.76	
2674.768	5	37375.31	27604 _{9/2} - 64979 _{7/2} ^o	2638.882	1	37883.55	31254 _{7/2} - 69138 _{9/2} ^o
2673.055	5	37399.26	65909 _{5/2} ^o - 103308 _{7/2} ^o	2637.280	1 d	37906.56	
2672.703	6	37404.19		2636.959	3	37911.17	
2672.626	8 w	37405.26	29835 _{9/2} - 67240 _{7/2} ^o	2636.705	3	37914.82	23442 _{11/2} - 61357 _{9/2} ^o
2672.373	5	37408.81	24309 _{5/2} - 61717 _{5/2} ^o	2634.707	5 w	37943.57	69138 _{9/2} - 107081 _{9/2} ^o
2672.050	2	37413.33	29267 _{5/2} - 66681 _{5/2} ^o	2632.983	3 c	37968.42	28885 _{9/2} - 66852 _{7/2} ^o
2671.681	5	37418.49	22747 _{9/2} - 60166 _{9/2} ^o	2631.310	1 c	37992.56	30994 _{9/2} - 68987 _{7/2} ^o
2671.391	1	37422.56		2631.213	4 c	37993.96	35384 _{5/2} - 73378 _{7/2} ^o
2670.939	4	37428.89		2630.755	1	38000.57	
2669.230	6	37452.85	24788 _{9/2} - 62240 _{11/2} ^o	2630.360	1 w	38006.28	
"			36652 _{5/2} - 74105 _{5/2} ^o	2629.918	1 w	38012.66	65295 _{7/2} ^o - 103308 _{7/2}
2669.147	4	37454.02		2629.413	7	38019.96	30505 _{11/2} - 68525 _{11/2} ^o
2668.195	5	37467.38	24250 _{3/2} - 61717 _{5/2} ^o	2629.089	2	38024.65	
2668.097	1	37468.76		2629.015	7	38025.72	
2667.807	5	37472.83	29263 _{13/2} - 66735 _{13/2} ^o	2628.633	1	38031.25	
2667.514	20 w	37476.94	27380 _{11/2} - 64857 _{9/2} ^o	2628.123	5	38038.63	
2666.218	2	37495.16	63576 _{5/2} - 101071 _{5/2} ^o	2627.136	1	38052.92	
2666.008	1	37498.11	26095 _{11/2} - 63593 _{9/2} ^o	2626.938	5	38055.78	26095 _{11/2} - 64150 _{11/2} ^o
2665.751	4	37501.73	25033 _{9/2} - 62535 _{9/2} ^o	2626.210	2	38066.33	62558 _{11/2} - 100625 _{11/2} ^o
2665.210	1 w	37509.34		2626.016	1	38069.14	
2664.988	5	37512.46	23844 _{9/2} - 61357 _{9/2} ^o	2625.761	5	38072.84	23532 _{5/2} - 61605 _{7/2} ^o
2664.112	9 w	37524.80	25033 _{9/2} - 62558 _{11/2} ^o	2625.245	7	38080.32	62240 _{11/2} - 100321 _{9/2}
2663.415	3	37534.62	65295 _{7/2} ^o - 102830 _{9/2} ^o	2624.903	40 w	38085.28	22080 _{7/2} - 60166 _{9/2} ^o
2662.534	2	37547.04	31254 _{7/2} - 68801 _{7/2} ^o	2624.624	1 w	38089.33	63576 _{5/2} - 101665 _{5/2} ^o
2661.347	4	37563.78	29835 _{9/2} - 67398 _{9/2} ^o	2624.016	7	38098.16	

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
2622.734	1 w	38116.78	64865 _{1/2} ^o — 102981 _{13/2} ^o	2594.429	4	38532.60	26446 _{7/2} ^o — 64979 _{7/2} ^o
2622.448	5	38120.94	68544 _{9/2} ^o — 106665 _{7/2} ^o	2594.139	4	38536.91	
2621.999	2	38127.46	29267 _{5/2} ^o — 67395 _{5/2} ^o	2593.968	6	38539.45	29835 _{9/2} ^o — 68374 _{9/2} ^o
2621.671	5	38132.23	28720 _{9/2} ^o — 66852 _{7/2} ^o	2593.570	1	38545.37	
2621.181	1	38139.36		2593.483	1	38546.66	
2620.287	2 w	38152.37		2592.832	5	38556.34	68525 _{9/2} ^o — 107081 _{9/2} ^o
2619.945	1	38157.35	27138 _{7/2} ^o — 65295 _{9/2} ^o	2592.424	2	38562.40	62062 _{9/2} ^o — 100625 _{11/2} ^o
2619.706	3	38160.83	69138 _{9/2} ^o — 107299 _{7/2} ^o	2591.910	6	38570.05	
2619.447	1 c	38164.61	28885 _{9/2} ^o — 67049 _{9/2} ^o	2591.240	3 w	38580.02	
2619.162	1	38168.76	66735 _{3/2} ^o — 104904 _{11/2} ^o	2590.358	9 w	38593.16	23647 _{13/2} ^o — 62240 _{9/2} ^o
2618.891	2	38172.71	68492 _{7/2} ^o — 106665 _{7/2} ^o	2590.248	3	38594.80	64235 _{9/2} ^o — 102830 _{9/2} ^o
2618.781	2	38174.31		2590.010	1	38598.34	
2618.433	1	38179.39		2589.900	4	38599.98	35863 _{3/2} ^o — 74463 _{3/2} ^o
2618.143	6	38183.61	25409 _{7/2} ^o — 63593 _{9/2} ^o	"			65295 _{7/2} ^o — 103895 _{7/2} ^o
2617.740	3	38189.49	62240 _{11/2} ^o — 100430 _{9/2} ^o	2589.584	2	38604.69	45805 _{9/2} ^o — 84410 _{9/2} ^o
2617.495	8	38193.07		2589.451	5	38606.68	62558 _{9/2} ^o — 101165 _{11/2} ^o
2616.902	4	38201.72		2589.269	6	38609.39	22747 _{9/2} ^o — 61357 _{9/2} ^o
2616.799	1	38203.22		2588.754	1	38617.07	
2616.199	3	38211.99	37197 _{3/2} ^o — 75409 _{9/2} ^o	2588.641	2	38618.75	63816 _{11/2} ^o — 102435 _{11/2} ^o
2616.047	1	38214.21	63232 _{7/2} ^o — 101446 _{7/2} ^o	2587.816	9	38631.07	21535 _{9/2} ^o — 60166 _{9/2} ^o
2615.635	9 w	38220.22	64215 _{13/2} ^o — 102435 _{11/2} ^o	2587.709	20 w	38632.66	30505 _{11/2} ^o — 69138 _{9/2} ^o
2614.546	9 w	38236.14	25979 _{15/2} ^o — 64215 _{13/2} ^o	2587.196	5	38640.32	66148 _{13/2} ^o — 104788 _{11/2} ^o
2613.963	3 w	38244.67		2586.824	1 w	38645.88	
2613.666	2 w	38249.02	64235 _{9/2} ^o — 102484 _{9/2} ^o	2586.728	1 w	38647.31	
2613.377	3	38253.24	68492 _{7/2} ^o — 106745 _{5/2} ^o	2586.390	2	38652.36	
2612.932	4	38259.76		2586.298	1	38653.74	
2611.527	1	38280.34	68801 _{7/2} ^o — 107081 _{9/2} ^o	2586.055	1	38657.37	29835 _{9/2} ^o — 68492 _{7/2} ^o
2611.395	3	38282.28		2585.689	5	38662.84	
2611.330	3	38283.23	66735 _{13/2} ^o — 105019 _{13/2} ^o	2585.621	3 w	38663.86	21755 _{11/2} ^o — 60419 _{9/2} ^o
2611.167	7	38285.62	19872 _{7/2} ^o — 58158 _{7/2} ^o	2585.361	4 w	38667.75	63816 _{9/2} ^o — 102484 _{9/2} ^o
2610.969	2	38288.52		2584.766	3	38676.65	65922 _{11/2} ^o — 104598 _{13/2} ^o
2610.351	8 w	38297.59	66301 _{15/2} ^o — 104598 _{13/2} ^o	2584.711	6 w	38677.47	
2610.068	6	38301.74	19872 _{7/2} ^o — 58174 _{9/2} ^o	2584.314	1	38683.41	40205 _{3/2} ^o — 78889 _{3/2} ^o
2609.240	4	38313.89	66735 _{13/2} ^o — 105049 _{15/2} ^o	2583.362	1	38697.67	29267 _{5/2} ^o — 67965 _{3/2} ^o
2608.950	7	38318.15	35291 _{9/2} ^o — 73609 _{11/2} ^o	2583.082	3 w	38701.86	
"			27604 _{9/2} ^o — 65922 _{11/2} ^o	2582.712	1	38707.40	68374 _{9/2} ^o — 107081 _{9/2} ^o
2608.556	3 w	38323.94		2582.263	5	38714.13	23844 _{9/2} ^o — 62558 _{11/2} ^o
2608.245	6	38328.51	28720 _{9/2} ^o — 67049 _{9/2} ^o	2582.135	5 w	38716.05	63768 _{7/2} ^o — 102484 _{9/2} ^o
2607.898	5 w	38333.61		2582.025	4	38717.70	66301 _{15/2} ^o — 105019 _{13/2} ^o
2606.765	2	38350.27		2581.446	1 w	38726.39	36683 _{13/2} ^o — 75409 _{5/2} ^o
2606.515	5	38353.95	35024 _{7/2} ^o — 73378 _{7/2} ^o	"			62062 _{9/2} ^o — 100788 _{7/2} ^o
2606.385	6 c	38355.86	28885 _{9/2} ^o — 67240 _{7/2} ^o	2580.886	2 w	38734.79	25033 _{9/2} ^o — 63768 _{7/2} ^o
2604.457	3	38384.25	62240 _{11/2} ^o — 100625 _{11/2} ^o	2580.614	2	38738.87	
2603.646	6	38396.21	23844 _{9/2} ^o — 62240 _{11/2} ^o	2580.089	3	38746.75	
2603.549	2	38397.64	37011 _{5/2} ^o — 75409 _{9/2} ^o	2579.982	9 w	38748.36	66301 _{15/2} ^o — 105049 _{15/2} ^o
2603.320	2	38401.01	67049 _{9/2} ^o — 105450 _{11/2} ^o	2579.391	1	38757.24	36652 _{5/2} ^o — 75409 _{3/2} ^o
2603.263	1	38401.85	64215 _{13/2} ^o — 102617 _{11/2} ^o	2579.098	2	38761.64	
2602.690	4	38410.31	21755 _{11/2} ^o — 60166 _{9/2} ^o	2578.774	9 w	38766.51	64215 _{13/2} ^o — 102981 _{13/2} ^o
2602.616	4	38411.40	29267 _{5/2} ^o — 67679 _{7/2} ^o	2578.667	2	38768.12	27380 _{11/2} ^o — 66148 _{13/2} ^o
2602.446	2 w	38413.91	30994 _{9/2} ^o — 69408 _{11/2} ^o	2578.496	1	38770.69	
"			68331 _{7/2} ^o — 106745 _{5/2} ^o	2577.866	2 w	38780.16	67965 _{3/2} ^o — 106745 _{5/2} ^o
2602.224	1	38417.19	37197 _{7/2} ^o — 75614 _{5/2} ^o	2576.922	3 w	38794.37	67870 _{9/2} ^o — 106665 _{7/2} ^o
2601.929	3 w	38421.54		2576.640	2	38798.61	23442 _{11/2} ^o — 62240 _{11/2} ^o
2601.643	1 w	38425.77		2576.429	1 w	38801.79	
2600.953	6	38435.96		2576.109	1	38806.61	68492 _{7/2} ^o — 107299 _{7/2} ^o
2599.960	1 w	38450.64	66148 _{13/2} ^o — 104598 _{13/2} ^o	2575.911	1	38809.59	
2598.916	1	38466.08	25934 _{5/2} ^o — 64401 _{5/2} ^o	2575.322	1	38818.47	
2598.654	1	38469.96	64865 _{11/2} ^o — 103335 _{9/2} ^o	2574.917	7 w	38824.58	61605 _{7/2} ^o — 100430 _{9/2} ^o
2598.529	4	38471.81	1398 _{11/2} ^o — 39870 _{9/2} ^o	2574.839	2	38825.75	
2598.033	4	38479.16	64865 _{11/2} ^o — 103344 _{11/2} ^o	2573.971	1	38838.84	
2597.788	1	38482.78	27452 _{5/2} ^o — 65935 _{7/2} ^o	2573.738	3	38842.36	63593 _{9/2} ^o — 102435 _{11/2} ^o
2596.843	9 w	38496.79		2572.952	2 w	38854.22	
2595.958	1	38509.91		2572.698	4	38858.06	22747 _{9/2} ^o — 61605 _{7/2} ^o
2595.448	1 w	38517.48	67049 _{9/2} ^o — 105566 _{9/2} ^o	2572.588	7	38859.72	
2595.299	9 w	38519.69	28720 _{9/2} ^o — 67240 _{7/2} ^o	2572.157	2 w	38866.23	65922 _{11/2} ^o — 104788 _{11/2} ^o

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å – Continued.

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
2572.074	1	38867.49	68987 ^o _{7/2} – 107854 _{9/2}	2550.334	3	39198.79	
2571.821	8	38871.31	21294 ^o _{7/2} – 60166 _{9/2}	2550.142	4 w	39201.74	25033 _{9/2} – 64235 _{9/2}
2571.708	2 w	38873.02		2549.531	1	39211.13	67870 _{9/2} – 107081 _{9/2}
2571.077	1	38882.56	25934 _{5/2} – 64817 _{5/2}	2548.652	1	39224.65	
2570.944	9 w	38884.57	21535 _{9/2} – 60419 _{1/2}	2548.600	2	39225.45	
"			62062 _{9/2} – 100947 _{9/2}	2548.319	1	39229.78	21294 _{7/2} – 60520 _{7/2}
2570.492	4	38891.41		2547.884	9 w	39236.48	23442 _{11/2} – 62678 _{13/2}
2570.170	4	38896.28	66735 _{13/2} – 105632 _{13/2}	2546.760	3	39253.79	
2569.362	1	38908.51		2546.189	8	39262.59	29263 _{13/2} – 68525 _{11/2}
2569.203	9 w	38910.92	23647 _{13/2} – 62558 _{11/2}	2545.893	5	39267.16	
2569.126	6	38912.08	24309 _{5/2} – 63221 _{3/2}	2545.790	9 w	39268.75	64215 _{13/2} – 103484 _{15/2}
2569.038	1	38913.42		2545.581	5	39271.97	
2568.306	6	38924.51	68374 _{9/2} – 107299 _{7/2}	2544.921	3 w	39282.16	
"			62240 _{11/2} – 101165 _{11/2}	2544.892	3	39282.60	
2567.890	7	38930.81		2544.545	1 w	39287.96	
2567.259	2	38940.38		2544.454	2	39289.36	
2565.796	1	38962.58	36652 _{5/2} – 75614 _{5/2}	2543.644	1	39301.88	
2565.695	1	38964.12	61357 _{9/2} – 100321 _{9/2}	2543.557	6	39303.22	29835 _{9/2} – 69138 _{9/2}
2565.532	8	38966.59	29835 _{9/2} – 68801 _{7/2}	2543.294	1 w	39307.28	
2565.346	1 w	38969.42	36670 _{11/2} – 75640 _{11/2}	2542.752	1	39315.66	
2565.001	1	38974.66		2542.308	1	39322.53	
2564.509	4	38982.13	65922 _{11/2} – 104904 _{11/2}	2541.352	1 w	39337.32	
2564.042	2	38989.23		2541.234	1	39339.15	
2563.904	2	38991.33	25409 _{7/2} – 64401 _{5/2}	2541.080	8 w	39341.53	61605 _{7/2} – 100947 _{9/2}
2563.474	7	38997.87	36642 _{13/2} – 75640 _{11/2}	2540.729	2	39346.96	
2561.773	6	39023.76	63593 _{9/2} – 102617 _{11/2}	2540.620	4	39348.65	
2561.429	4	39029.01	28930 _{3/2} – 67965 _{5/2}	2540.311	7	39353.44	61717 _{5/2} – 101071 _{5/2}
2561.303	1 w	39030.92	23647 _{13/2} – 62678 _{13/2}	2539.970	3	39358.72	
"			9370 _{3/2} – 48401 _{3/2}	2539.826	8 w	39360.95	25934 _{5/2} – 65295 _{7/2}
2560.455	5	39043.85		2539.759	5	39361.99	68492 _{7/2} – 107854 _{9/2}
2559.921	1	39051.99	65967 _{13/2} – 105019 _{13/2}	2539.354	2	39368.27	
2559.865	1	39052.85	68801 _{7/2} – 107854 _{9/2}	2538.550	6	39380.74	
2559.277	2	39061.82	63768 _{7/2} – 102830 _{9/2}	2538.362	9 w	39383.65	23175 _{13/2} – 62558 _{11/2}
2558.994	9 w	39066.14		"			62062 _{9/2} – 101446 _{7/2}
2558.675	5	39071.01	61717 _{5/2} – 100788 _{7/2}	2537.614	3	39395.26	
2558.537	4	39073.12		2537.099	2	39403.26	39732 _{11/2} – 79136 _{13/2}
2557.916	1	39082.60	65967 _{13/2} – 105049 _{15/2}	2536.746	8	39408.74	
2557.323	3	39091.67	36670 _{11/2} – 75762 _{9/2}	2536.648	7	39410.26	39725 _{15/2} – 79136 _{13/2}
2557.208	1	39093.42	23442 _{11/2} – 62535 _{9/2}	2536.031	4 w	39419.85	
2556.813	4	39099.46	64235 _{9/2} – 103335 _{5/2}	2535.945	7 w	39421.19	69138 _{9/2} – 108559 _{11/2}
2556.605	6	39102.64	62062 _{9/2} – 101165 _{11/2}	2535.003	4	39435.83	
2556.476	6	39104.62		2534.759	9 w	39439.63	62240 _{11/2} – 101680 _{13/2}
2556.210	4	39108.69	64235 _{9/2} – 103344 _{11/2}	2534.620	5 w	39441.79	
2555.703	9 w	39116.44	23442 _{11/2} – 62558 _{11/2}	2534.255	6 w	39447.47	
2555.353	7	39121.80	36640 _{7/2} – 75762 _{9/2}	2533.904	9 w	39452.94	
"			62558 _{11/2} – 101680 _{13/2}	2533.653	9 w	39456.84	
2555.203	2 w	39124.10		2532.656	3	39472.38	30505 _{11/2} – 69978 _{11/2}
2555.146	1 w	39124.97		2532.118	3	39480.76	
2554.979	1	39127.53	38694 _{5/2} – 77822 _{5/2}	2531.925	7	39483.77	66148 _{13/2} – 105632 _{13/2}
2554.884	1	39128.98	64215 _{13/2} – 103344 _{11/2}	2531.633	6	39488.33	26446 _{7/2} – 65935 _{7/2}
2554.252	1 w	39138.66		2531.325	9 w	39493.13	22747 _{9/2} – 62240 _{11/2}
2553.544	1	39149.51		2531.138	1	39496.05	
2553.380	3	39152.03	29835 _{9/2} – 68987 _{7/2}	2530.968	1	39498.70	
2553.319	5	39152.96		2530.655	4	39503.59	23175 _{13/2} – 62678 _{13/2}
2552.336	5	39168.04	18990 _{7/2} – 58158 _{7/2}	2530.464	9 w	39506.57	44903 _{5/2} – 84409 _{3/2}
2552.260	2	39169.21		2529.768	5	39517.44	28720 _{9/2} – 68238 _{11/2}
2552.114	4	39171.45		2529.726	4	39518.09	63816 _{11/2} – 103335 _{9/2}
2552.037	1	39172.63		2529.430	2	39522.72	68331 _{7/2} – 107854 _{9/2}
2551.880	7	39175.04		2529.110	9 d	39527.72	65922 _{11/2} – 105450 _{11/2}
2551.519	9 w	39180.58	30505 _{11/2} – 69686 _{9/2}	2528.754	4	39533.28	
2551.300	9 w	39183.95	18990 _{7/2} – 58174 _{9/2}	2528.725	7	39533.73	29267 _{5/2} – 68801 _{7/2}
2551.182	5	39185.76		2528.330	2	39539.91	63768 _{7/2} – 103308 _{7/2}
2551.148	5	39186.28		2528.159	3	39542.58	27138 _{7/2} – 66681 _{5/2}
2550.681	5	39193.45	64150 _{11/2} – 103344 _{11/2}	2527.950	3	39545.85	35863 _{3/2} – 75409 _{3/2}
2550.470	3	39196.70		2527.569	1 w	39551.81	

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
2526.636	1	39566.42	63768 [°] _{7/2} — 103335 [°] _{9/2}	2503.463	5 w	39932.63	18241 [°] _{11/2} — 58174 [°] _{9/2}
2525.123	8 w	39590.12	61357 [°] _{9/2} — 100947 [°] _{9/2}	2503.391	5	39933.78	35828 [°] _{9/2} — 75762 [°] _{9/2}
2524.753	5	39595.93	29835 [°] _{9/2} — 69431 [°] _{7/2}	2503.229	1	39936.37	
2524.416	6	39601.21	21755 [°] _{11/2} — 61357 [°] _{9/2}	2503.159	1	39937.48	
2523.785	6 w	39611.11		2503.012	8	39939.83	24461 [°] _{5/2} — 64401 [°] _{5/2}
2523.634	3	39613.48		2502.909	8	39941.47	23651 [°] _{7/2} — 63593 [°] _{9/2}
2523.083	5	39622.13		2502.822	1	39942.86	27452 [°] _{5/2} — 67395 [°] _{5/2}
2522.909	1	39624.86		2502.654	6	39945.54	25033 [°] _{9/2} — 64979 [°] _{7/2}
2522.043	2	39638.47		2502.606	7 w	39946.31	18211 [°] _{5/2} — 58158 [°] _{7/2}
2521.677	1	39644.22	65922 [°] _{11/2} — 105566 [°] _{9/2}	2502.526	5 w	39947.59	61717 [°] _{5/2} — 101665 [°] _{5/2}
2521.021	7	39654.54	64150 [°] _{11/2} — 103805 [°] _{13/2}	2502.133	1	39953.86	
2520.787	6	39658.22		2502.022	2	39955.63	
2520.731	4	39659.10	28885 [°] _{9/2} — 68544 [°] _{9/2}	2501.967	1 w	39956.51	
2520.662	2	39660.18	64235 [°] _{9/2} — 103895 [°] _{7/2}	2501.708	1 w	39960.65	
2520.107	5	39668.92	27380 [°] _{11/2} — 67049 [°] _{9/2}	2501.462	1	39964.58	
2519.917	8	39671.91	20848 [°] _{5/2} — 60520 [°] _{7/2}	2500.978	5	39972.31	23844 [°] _{9/2} — 63816 [°] _{11/2}
2519.272	2	39682.07		2500.842	1	39974.48	25934 [°] _{5/2} — 65909 [°] _{5/2}
2519.110	9 d	39684.62		2500.456	3 w	39980.65	
2518.865	1 w	39688.48	23532 [°] _{5/2} — 63221 [°] _{3/2}	2500.389	4	39981.72	22080 [°] _{7/2} — 62062 [°] _{5/2}
2518.782	1 w	39689.78		2500.258	1	39983.82	67870 [°] _{9/2} — 107854 [°] _{9/2}
2518.326	1	39696.97	35863 [°] _{3/2} — 75560 [°] _{5/2}	2499.968	10	39988.46	63816 [°] _{11/2} — 103805 [°] _{13/2}
2517.916	1	39703.43		2499.686	6	39992.97	38701 [°] _{13/2} — 78694 [°] _{11/2}
2517.515	8	39709.76	65922 [°] _{11/2} — 105632 [°] _{13/2}	2499.596	7	39994.41	21611 [°] _{5/2} — 61605 [°] _{7/2}
2517.455	9 w	39710.70	29267 [°] _{5/2} — 68978 [°] _{5/2}	2499.234	5	40000.20	25934 [°] _{5/2} — 65935 [°] _{7/2}
2516.926	1 d	39719.05		2498.939	1	40004.92	
2516.337	1	39728.35	61717 [°] _{5/2} — 101446 [°] _{7/2}	2498.736	5	40008.17	
2516.108	4	39731.96		2498.297	1	40015.20	38448 [°] _{9/2} — 78463 [°] _{7/2}
2515.487	7	39741.77	63593 [°] _{9/2} — 103335 [°] _{9/2}	"			68544 [°] _{9/2} — 108559 [°] _{11/2}
2515.045	7	39748.75	23844 [°] _{9/2} — 63593 [°] _{9/2}	2498.182	9 w	40017.04	
2514.901	7	39751.03	35863 [°] _{3/2} — 75614 [°] _{5/2}	2498.096	1	40018.42	27380 [°] _{11/2} — 67398 [°] _{9/2}
"			63593 [°] _{9/2} — 103344 [°] _{11/2}	2497.847	1	40022.41	
2514.462	2	39757.97		2497.682	1	40025.05	
2514.143	1	39763.01	38549 [°] _{1/2} — 78312 [°] _{1/2}	2497.240	2	40032.14	
2513.990	1 w	39765.43		2497.143	2	40033.69	68525 [°] _{11/2} — 108559 [°] _{11/2}
2513.775	1	39768.83		2496.296	1	40047.28	
2513.553	5	39772.35		2496.215	1	40048.57	
2512.721	4	39785.51		2495.934	7	40053.08	26095 [°] _{11/2} — 66148 [°] _{13/2}
2512.610	4	39787.27		2495.584	2	40058.70	67240 [°] _{7/2} — 107299 [°] _{7/2}
2512.410	1 w	39790.44		2495.508	10 w	40059.92	61605 [°] _{7/2} — 101665 [°] _{5/2}
2511.753	1	39800.85	60520 [°] _{7/2} — 100321 [°] _{9/2}	2495.373	10 w	40062.09	21294 [°] _{7/2} — 61357 [°] _{9/2}
2511.285	8	39808.26	61357 [°] _{9/2} — 101165 [°] _{11/2}	2495.244	3 w	40064.16	
2511.114	9 w	39810.97	22747 [°] _{9/2} — 62558 [°] _{11/2}	2495.174	2	40065.28	
2510.611	2	39818.95		2494.855	3	40070.40	21535 [°] _{9/2} — 61605 [°] _{7/2}
2510.426	7	39821.88	21535 [°] _{9/2} — 61357 [°] _{9/2}	2494.573	3	40074.93	27604 [°] _{9/2} — 67679 [°] _{7/2}
2510.341	7	39823.23	25033 [°] _{9/2} — 64857 [°] _{9/2}	2494.516	1	40075.85	
2510.142	1 w	39826.39		2494.315	1	40079.08	
2510.092	7	39827.18	26095 [°] _{11/2} — 65922 [°] _{11/2}	2494.199	10 w	40080.94	28720 [°] _{9/2} — 68801 [°] _{7/2}
2509.243	7	39840.66	61605 [°] _{7/2} — 101446 [°] _{7/2}	2493.998	1	40084.17	
2509.058	1	39843.59		2493.685	6	40089.20	61357 [°] _{9/2} — 101446 [°] _{7/2}
2508.682	4	39849.57		2493.523	8	40091.81	24309 [°] _{5/2} — 64401 [°] _{5/2}
2508.615	5	39850.63		2492.907	6	40101.71	27138 [°] _{7/2} — 67240 [°] _{7/2}
2508.584	5 w	39851.12	29835 [°] _{9/2} — 69686 [°] _{9/2}	2492.764	2	40104.01	20315 [°] _{9/2} — 60419 [°] _{11/2}
2507.340	1	39870.89		2492.595	6	40106.73	21611 [°] _{5/2} — 61717 [°] _{5/2}
2507.279	1	39871.86	26095 [°] _{11/2} — 65967 [°] _{13/2}	2492.346	6	40110.74	18063 [°] _{9/2} — 58174 [°] _{9/2}
2506.481	1	39884.56		2491.973	10	40116.74	23651 [°] _{7/2} — 63768 [°] _{7/2}
2505.974	3	39892.62		2491.619	1	40122.44	
2505.358	1	39902.43	37919 [°] _{7/2} — 77822 [°] _{5/2}	2491.326	6	40127.16	63768 [°] _{7/2} — 103895 [°] _{7/2}
2505.268	1	39903.87		2491.237	2	40128.59	
2504.956	1	39908.84		2491.087	1	40131.01	
2504.842	3	39910.65	27138 [°] _{7/2} — 67049 [°] _{9/2}	2490.618	1 w	40138.57	
2504.542	2	39915.43		2490.194	9	40145.40	29263 [°] _{13/2} — 69408 [°] _{11/2}
2504.408	2 * r	39917.57		2489.871	5 w	40150.61	
2503.994	2	39924.17		2489.246	2	40160.69	
2503.616	5	39930.19	24470 [°] _{7/2} — 64401 [°] _{5/2}	2489.090	5	40163.21	
2503.535	3	39931.49	64857 [°] _{9/2} — 104788 [°] _{11/2}	2488.719	10 w	40169.19	23647 [°] _{13/2} — 63816 [°] _{11/2}

TABLE 1. *Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued*

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
2488.630	8 w	40170.63	23050 _{3/2} — 63221 _{3/2}	2470.978	6	40457.58	
2488.487	3 w	40172.94		2469.796	1	40476.94	35137 _{3/2} — 75614 _{5/2}
2488.350	3 w	40175.15		2469.307	6	40484.95	21755 _{11/2} — 62240 _{11/2}
2488.213	3	40177.36		2468.967	10	40490.53	27380 _{11/2} — 67870 _{9/2}
2487.998	2	40180.83		2468.631	1	40496.04	26446 _{7/2} — 66943 _{5/2}
2487.750	6	40184.84	68374 _{9/2} — 108559 _{11/2}	2468.539	2	40497.55	
2487.630	8	40186.78	21418 _{5/2} — 61605 _{7/2}	2468.197	10	40503.16	23647 _{13/2} — 64150 _{11/2}
2487.338	6	40191.49	24788 _{9/2} — 64979 _{7/2}	2468.110	5 w	40504.59	
2487.297	1	40192.16		2467.865	9	40508.61	24470 _{7/2} — 64979 _{7/2}
2487.144	5	40194.63	38694 _{5/2} — 78889 _{3/2}	2467.641	2 w	40512.28	
2486.852	5	40199.35		2467.444	9 w	40515.52	
2486.523	9	40204.67	20315 _{9/2} — 60520 _{7/2}	2467.279	1	40518.23	24461 _{5/2} — 64979 _{7/2}
2485.156	10 w	40226.78	27452 _{5/2} — 67679 _{7/2}	2466.715	6	40527.49	21535 _{9/2} — 62062 _{9/2}
2485.056	1	40228.40		"			60419 _{11/2} — 10094 _{7/2}
2484.877	9	40231.30		2466.497	2	40531.07	17627 _{9/2} — 58158 _{7/2}
2484.702	1	40234.13	26446 _{7/2} — 66681 _{5/2}	2466.224	7 w	40535.56	
2484.602	10 w	40235.75	23532 _{5/2} — 63768 _{7/2}	2466.182	7	40536.25	35024 _{7/2} — 75560 _{5/2}
2484.203	3	40242.21		2465.912	6	40540.69	27138 _{7/2} — 67679 _{7/2}
2483.988	10	40245.69		2465.517	2	40547.18	17627 _{9/2} — 58174 _{5/2}
2483.869	3	40247.62		2465.272	2	40551.21	60520 _{7/2} — 101071 _{5/2}
2483.489	5 w	40253.78		2464.928	1	40556.87	
2483.305	10	40256.76	27138 _{7/2} — 67395 _{5/2}	2464.646	1	40561.51	
2483.239	6	40257.83		2464.274	4	40567.63	23647 _{13/2} — 64215 _{13/2}
2483.090	4	40260.25	27138 _{7/2} — 67398 _{9/2}	2463.797	1	40575.49	
2482.702	5 w	40266.54	27604 _{9/2} — 67870 _{9/2}	2463.295	8	40583.75	23651 _{7/2} — 64235 _{5/2}
2482.577	1	40268.57	60520 _{7/2} — 100788 _{7/2}	2462.895	10	40590.35	35024 _{7/2} — 75614 _{5/2}
2482.452	6	40270.59		2462.519	1	40596.54	
2482.384	7	40271.70	35137 _{3/2} — 75409 _{3/2}	2462.377	1	40598.88	
"			62558 _{11/2} — 102830 _{9/2}	2462.175	10	40602.21	26446 _{7/2} — 67049 _{5/2}
2482.283	1	40273.33		2460.719	10 w	40626.24	44679 _{7/2} — 85306 _{5/2}
2482.192	6	40274.81		2460.626	6	40627.77	39732 _{11/2} — 80360 _{11/2}
2482.096	1	40276.37		2459.983	3	40638.39	
2481.990	1 w	40278.09		2459.913	6	40639.55	
2481.770	9	40281.66	31254 _{7/2} — 71536 _{5/2}	2459.844	7	40640.69	26095 _{11/2} — 66735 _{13/2}
2481.687	1	40283.01		2459.772	10 w	40641.88	23175 _{13/2} — 63816 _{11/2}
2481.025	10	40293.75	19872 _{7/2} — 60166 _{9/2}	2459.406	7	40647.92	19872 _{7/2} — 60520 _{7/2}
2480.693	9	40299.15	21418 _{5/2} — 61717 _{5/2}	2459.308	8	40649.54	
2480.487	9	40302.49	63593 _{9/2} — 103895 _{7/2}	2458.243	1	40667.15	
2480.409	3 w	40303.76		2457.936	6	40672.23	38694 _{5/2} — 79366 _{5/2}
2480.248	5 w	40306.38	23844 _{9/2} — 64150 _{11/2}	2456.736	1	40692.10	40205 _{3/2} — 80897 _{3/2}
2480.230	5 w	40306.67		2456.476	1	40696.40	
2479.977	10	40310.78	21294 _{7/2} — 61605 _{7/2}	2455.989	3	40704.47	22527 _{7/2} — 63232 _{7/2}
2479.284	5	40322.05	25979 _{15/2} — 66301 _{15/2}	2455.913	1	40705.73	21535 _{9/2} — 62240 _{11/2}
2478.659	2	40332.21		2455.732	2	40708.73	23442 _{11/2} — 64150 _{11/2}
2478.553	2	40333.94		2455.351	2	40715.05	29263 _{13/2} — 69978 _{11/2}
2478.324	10 w	40337.66	31254 _{7/2} — 71592 _{9/2}	2455.118	6 w	40718.91	
2478.229	1 w	40339.21	38549 _{1/2} — 78889 _{3/2}	2455.080	3 w	40719.54	
2477.773	1	40346.63	24470 _{7/2} — 64817 _{5/2}	2454.820	10	40723.86	31254 _{7/2} — 71978 _{7/2}
2477.275	1	40354.74		2454.599	10	40727.52	27604 _{9/2} — 68331 _{7/2}
2477.179	9	40356.31	24461 _{5/2} — 64817 _{5/2}	2453.780	5	40741.11	62240 _{11/2} — 102981 _{13/2}
2476.259	5 w	40371.30	39024 _{9/2} — 79395 _{7/2}	2453.297	1	40749.13	23651 _{7/2} — 64401 _{5/2}
2476.064	5 w	40374.48		2453.217	1	40750.46	
2475.946	1	40376.40	62240 _{11/2} — 102617 _{11/2}	2452.848	10 w	40756.59	25979 _{15/2} — 66735 _{13/2}
2475.692	2	40380.55	41023 _{7/2} — 81404 _{5/2}	2452.809	10 w	40757.24	20848 _{5/2} — 61605 _{5/2}
2475.536	1 w	40383.09		2452.179	1	40767.71	21294 _{7/2} — 62062 _{9/2}
2475.343	5	40386.24	24470 _{7/2} — 64857 _{9/2}	"			62062 _{5/2} — 102830 _{9/2}
2475.047	8	40391.07	23844 _{9/2} — 64235 _{9/2}	2452.023	10	40770.31	27604 _{9/2} — 68374 _{9/2}
"			30994 _{9/2} — 71385 _{7/2}	2451.850	6	40773.18	23442 _{11/2} — 64215 _{13/2}
2474.714	3	40396.50		2451.437	1 w	40780.05	
2474.320	1	40402.94	44903 _{5/2} — 85306 _{5/2}	2451.381	2	40780.98	60166 _{9/2} — 10094 _{7/2}
2474.070	1	40407.02		2450.827	5	40790.20	
2473.421	10 w	40417.62	28720 _{9/2} — 69138 _{9/2}	2450.285	7	40799.22	40098 _{5/2} — 80897 _{3/2}
2473.009	2	40424.35		2450.167	1	40801.19	28885 _{9/2} — 69686 _{9/2}
2472.376	5	40434.70	38701 _{13/2} — 79136 _{13/2}	2450.020	1	40803.63	33659 _{5/2} — 74463 _{3/2}
2471.152	8	40454.73	22080 _{7/2} — 62535 _{9/2}	"			64215 _{13/2} — 105019 _{13/2}

TABLE 1. *Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å – Continued*

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
2449.908	4	40805.50	62678 [°] _{13/2} – 103484 [°] _{15/2}	2422.883	6 w	41260.61	60419 [°] _{11/2} – 101680 [°] _{13/2}
"			67049 [°] _{9/2} – 107854 [°] _{9/2}	2422.759	5	41262.72	39725 [°] _{15/2} – 80988 [°] _{13/2}
2449.636	1	40810.03	37011 [°] _{5/2} – 77822 [°] _{5/2}	2422.250	1	41271.39	25409 [°] _{7/2} – 66681 [°] _{5/2}
2448.157	10	40834.68	24461 [°] _{5/2} – 65295 [°] _{7/2}	2422.130	1	41273.44	
2447.499	8	40845.66	22747 [°] _{9/2} – 63593 [°] _{9/2}	2421.748	5	41279.95	
2446.770	10	40857.83	27380 [°] _{11/2} – 68238 [°] _{11/2}	2421.157	8	41290.02	20315 [°] _{9/2} – 61605 [°] _{7/2}
2446.066	5	40869.59	20848 [°] _{5/2} – 61717 [°] _{5/2}	2420.775	1	41296.54	
2445.961	1 w	40871.34		2420.655	1	41298.59	22277 [°] _{3/2} – 63576 [°] _{5/2}
2445.486	10	40879.28	27452 [°] _{5/2} – 68331 [°] _{7/2}	2420.229	6	41305.86	40098 [°] _{5/2} – 81404 [°] _{5/2}
2444.933	10 w	40888.53	25033 [°] _{9/2} – 65922 [°] _{11/2}	2418.950	10	41327.69	23651 [°] _{7/2} – 64979 [°] _{7/2}
2444.886	9 w	40889.31	34520 [°] _{5/2} – 75409 [°] _{3/2}	2417.691	10	41349.21	27452 [°] _{5/2} – 68801 [°] _{7/2}
2444.166	4	40901.36	25033 [°] _{9/2} – 65935 [°] _{7/2}	2416.648	3	41367.06	
2444.110	1	40902.29		2416.527	1	41369.13	65295 [°] _{7/2} – 106665 [°] _{7/2}
2442.972	7	40921.34	27604 [°] _{9/2} – 68525 [°] _{11/2}	2415.729	4	41382.79	27604 [°] _{9/2} – 68987 [°] _{7/2}
2442.697	1	40925.95	60520 [°] _{7/2} – 101446 [°] _{7/2}	2415.500	4	41386.72	
2442.329	1	40932.12	25934 [°] _{5/2} – 66867 [°] _{3/2}	2414.539	6	41403.19	22747 [°] _{9/2} – 64150 [°] _{11/2}
2441.859	1	40940.00	27604 [°] _{9/2} – 68544 [°] _{9/2}	2414.028	1	41411.95	
2441.642	8	40943.63	22277 [°] _{3/2} – 63221 [°] _{3/2}	2413.856	7	41414.90	23442 [°] _{11/2} – 64857 [°] _{9/2}
2441.360	3	40948.36	26446 [°] _{7/2} – 67395 [°] _{5/2}	2413.339	7	41423.77	26446 [°] _{7/2} – 67870 [°] _{9/2}
2441.151	4	40951.87	26446 [°] _{7/2} – 67398 [°] _{9/2}	2412.397	10	41439.95	21238 [°] _{13/2} – 62678 [°] _{13/2}
2441.028	7	40953.93	26095 [°] _{11/2} – 67049 [°] _{9/2}	2412.219	1	41443.01	
2440.333	4	40965.59	28720 [°] _{9/2} – 69686 [°] _{9/2}	2412.003	5	41446.72	23532 [°] _{5/2} – 64979 [°] _{7/2}
2440.018	1	40970.88		2411.919	1	41448.16	24461 [°] _{5/2} – 65909 [°] _{5/2}
2439.724	9	40975.82	23175 [°] _{13/2} – 64150 [°] _{11/2}	2411.470	1	41455.88	
2438.627	10	40994.25	27380 [°] _{11/2} – 68374 [°] _{9/2}	2411.390	4	41457.25	
2438.338	5	40999.11	60166 [°] _{9/2} – 101165 [°] _{11/2}	2410.982	1	41464.27	24470 [°] _{7/2} – 65935 [°] _{7/2}
2437.653	5	41010.63		2410.428	2 w	41473.80	
2437.541	3	41012.51	23844 [°] _{9/2} – 64857 [°] _{9/2}	2410.303	2	41475.95	37919 [°] _{7/2} – 79395 [°] _{7/2}
2437.064	8	41020.54	23844 [°] _{9/2} – 64865 [°] _{11/2}	2409.802	10	41484.57	19872 [°] _{7/2} – 61357 [°] _{9/2}
2436.889	10	41023.49	21535 [°] _{9/2} – 62558 [°] _{11/2}	2409.181	1	41495.26	22080 [°] _{7/2} – 63576 [°] _{5/2}
2435.907	10	41040.02	27452 [°] _{5/2} – 68492 [°] _{7/2}	2408.188	10	41512.37	22080 [°] _{7/2} – 63593 [°] _{9/2}
2435.776	2	41042.23		2408.093	1	41514.01	
2435.402	3	41048.53	22527 [°] _{7/2} – 63576 [°] _{5/2}	2408.060	1	41514.58	
2434.743	6	41059.64	19360 [°] _{13/2} – 60419 [°] _{11/2}	2407.396	1	41526.03	27452 [°] _{5/2} – 68978 [°] _{5/2}
2434.387	10	41065.65	22527 [°] _{7/2} – 63593 [°] _{9/2}	2407.153	7	41530.22	18990 [°] _{7/2} – 60520 [°] _{7/2}
2434.178	10 w	41069.17	22747 [°] _{9/2} – 63816 [°] _{11/2}	2407.053	1	41531.94	
2433.619	1	41078.60	61357 [°] _{9/2} – 102435 [°] _{11/2}	2406.900	4	41534.58	27452 [°] _{5/2} – 68987 [°] _{7/2}
2433.142	3	41086.66	30505 [°] _{11/2} – 71592 [°] _{9/2}	2406.703	6	41537.98	
2432.678	7	41094.49	34520 [°] _{5/2} – 75614 [°] _{5/2}	2406.336	7	41544.32	
2432.146	2	41103.48	62240 [°] _{11/2} – 103344 [°] _{11/2}	2405.819	2	41553.24	
2431.713	9	41110.80	19308 [°] _{11/2} – 60419 [°] _{11/2}	2405.563	10 w	41557.67	20160 [°] _{3/2} – 61717 [°] _{5/2}
2431.260	8	41118.46	29263 [°] _{13/2} – 70381 [°] _{13/2}	2405.181	1	41564.27	
2430.317	10 w	41134.41	24788 [°] _{9/2} – 65922 [°] _{11/2}	2402.533	6	41610.07	21611 [°] _{5/2} – 63221 [°] _{3/2}
2430.217	3	41136.10		2402.266	1	41614.70	
2429.680	1	41145.20	60520 [°] _{7/2} – 101665 [°] _{5/2}	2400.840	7	41639.41	25409 [°] _{7/2} – 67049 [°] _{9/2}
2429.562	1	41147.19	24788 [°] _{9/2} – 65935 [°] _{7/2}	2400.697	8	41641.89	16516 [°] _{7/2} – 58158 [°] _{7/2}
2429.492	1	41148.38		2400.579	4	41643.94	23651 [°] _{7/2} – 65295 [°] _{7/2}
2428.581	1	41163.81	27380 [°] _{11/2} – 68544 [°] _{9/2}	2399.877	1	41656.12	19700 [°] _{11/2} – 61357 [°] _{9/2}
2426.851	10	41193.16	27138 [°] _{7/2} – 68331 [°] _{7/2}	2399.697	10	41659.24	38701 [°] _{13/2} – 80360 [°] _{11/2}
2426.325	2	41202.08	63816 [°] _{11/2} – 105019 [°] _{13/2}	2399.106	1	41669.51	
2426.139	10	41205.24	23651 [°] _{7/2} – 64857 [°] _{9/2}	2398.060	9	41687.68	22080 [°] _{7/2} – 63768 [°] _{7/2}
2425.805	1	41210.92	34198 [°] _{1/2} – 75409 [°] _{3/2}	2397.843	6	41691.45	37197 [°] _{3/2} – 78889 [°] _{3/2}
2425.630	1	41213.89		2396.897	8	41707.91	22527 [°] _{7/2} – 64235 [°] _{9/2}
2425.426	2	41217.36	23647 [°] _{13/2} – 64865 [°] _{11/2}	2395.444	10	41733.20	19872 [°] _{7/2} – 61605 [°] _{7/2}
2425.030	3	41224.09		2394.812	6 w	41744.22	25934 [°] _{5/2} – 67679 [°] _{7/2}
2424.802	6 w	41227.96		2394.651	5	41747.02	20315 [°] _{9/2} – 62062 [°] _{9/2}
2424.642	6	41230.68	30505 [°] _{11/2} – 71736 [°] _{11/2}	2394.064	4	41757.26	29835 [°] _{9/2} – 71592 [°] _{9/2}
2424.550	5	41232.25	26446 [°] _{7/2} – 67679 [°] _{7/2}	2394.023	7	41757.97	27380 [°] _{11/2} – 69138 [°] _{9/2}
2424.332	2	41235.95	27138 [°] _{7/2} – 68374 [°] _{9/2}	2393.735	4	41763.00	23532 [°] _{5/2} – 65295 [°] _{7/2}
2424.043	5	41240.87	22527 [°] _{7/2} – 63768 [°] _{7/2}	2392.913	6	41777.34	39120 [°] _{3/2} – 80897 [°] _{3/2}
2423.954	1	41242.38		2391.474	5	41802.48	21418 [°] _{5/2} – 63221 [°] _{3/2}
2423.921	1	41242.95		2390.653	6	41816.83	
2423.700	3	41246.71	62558 [°] _{11/2} – 103805 [°] _{13/2}	2390.532	5	41818.95	25033 [°] _{9/2} – 66852 [°] _{7/2}
2423.452	3	41250.93		2390.284	2	41823.29	36640 [°] _{7/2} – 78463 [°] _{7/2}
2423.169	7	41255.74	39732 [°] _{11/2} – 80988 [°] _{13/2}	2390.088	6	41826.72	27604 [°] _{9/2} – 69431 [°] _{7/2}

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
2389.855	4	41830.79		2367.497	3	42225.80	62678 _{13/2} ° — 104904 _{11/2}
2389.473	4	41837.48	21755 _{11/2} ° — 63593 _{9/2} °	2366.790	1	42238.41	
2389.329	5	41840.00	27138 _{7/2} ° — 68978 _{5/2} °	2365.796	8	42256.16	58174 _{9/2} ° — 100430 _{9/2}
2389.018	1	41845.45		2365.516	10	42261.16	24788 _{9/2} ° — 67049 _{9/2} °
2388.845	4	41848.48	27138 _{7/2} ° — 68987 _{7/2} °	2365.105	7	42268.50	29267 _{5/2} ° — 71536 _{5/2} °
2387.428	3	41873.31	22527 _{7/2} ° — 64401 _{5/2} °	2365.055	6	42269.40	25409 _{7/2} ° — 67679 _{7/2} °
2387.207	7	41877.19	37011 _{5/2} ° — 78889 _{3/2} °	2364.502	8	42279.28	26095 _{11/2} ° — 68374 _{9/2} °
2386.937	5	41881.93		2364.274	7	42283.36	23651 _{7/2} ° — 65935 _{7/2} °
2386.777	6	41884.73	26446 _{7/2} ° — 68331 _{7/2} °	2363.765	1 w	42292.46	27138 _{7/2} ° — 69431 _{7/2} °
2384.757	5	41920.21	62678 _{13/2} ° — 104598 _{13/2} °	2363.737	1 c	42292.96	
2384.504	4	41924.66	18241 _{11/2} ° — 60166 _{9/2} °	2362.870	1	42308.48	
2384.340	5	41927.54	26446 _{7/2} ° — 68374 _{9/2} °	2362.317	2	42318.38	60166 _{9/2} ° — 102484 _{9/2}
2382.979	3	41951.49	61357 _{9/2} ° — 103308 _{7/2} °	2362.227	4	42320.00	22080 _{7/2} ° — 64401 _{5/2} °
2382.783	4	41954.94		2362.139	1 w	42321.57	
2382.588	6	41958.37	35863 _{3/2} ° — 77822 _{5/2} °	2362.017	6	42323.76	
2382.208	7	41965.06	21611 _{5/2} ° — 63576 _{5/2} °	2361.703	5	42329.39	22527 _{7/2} ° — 64857 _{9/2} °
2382.106	1 w	41966.86		2361.091	6	42340.36	62678 _{3/2} ° — 105019 _{13/2}
2381.445	2	41978.51	27452 _{5/2} ° — 69431 _{7/2} °	2360.786	5	42345.83	62558 _{11/2} ° — 104904 _{11/2}
2381.046	3	41985.54	25409 _{7/2} ° — 67395 _{5/2} °	2360.673	3	42347.85	
2380.051	4	42003.09	65295 _{7/2} ° — 107299 _{7/2} °	2360.496	5	42351.03	
2379.630	5	42010.52		2360.292	5	42354.69	26446 _{7/2} ° — 68801 _{7/2} °
2379.330	1	42015.82		"			37011 _{5/2} ° — 79366 _{5/2} °
2379.226	3	42017.65		2359.726	2	42364.85	25033 _{9/2} ° — 67398 _{9/2} °
2379.130	4	42019.35		2359.662	2	42366.00	
2378.973	10 w	42022.12	16135 _{7/2} ° — 58158 _{9/2} °	2359.385	6	42370.97	62678 _{3/2} ° — 105049 _{15/2}
2378.867	6 w	42024.00	36670 _{11/2} ° — 78694 _{11/2} °	2359.280	5	42372.85	20848 _{3/2} ° — 63221 _{3/2} °
2378.729	3 w	42026.43		2358.777	4	42381.89	
2378.502	5 w	42030.44	25934 _{5/2} ° — 67965 _{3/2} °	2358.675	4	42383.72	20848 _{3/2} ° — 63232 _{7/2} °
2378.238	2	42035.11		2357.627	3	42402.56	41023 _{7/2} ° — 83426 _{5/2} °
2378.064	10 w	42038.18	16135 _{7/2} ° — 58174 _{9/2} °	2357.541	3	42404.11	
2377.653	7	42045.45	26446 _{7/2} ° — 68492 _{7/2} °	2357.446	5	42405.82	24461 _{5/2} ° — 66867 _{5/2} °
2377.055	5	42056.03		2357.176	3	42410.67	60419 _{11/2} ° — 102830 _{9/2}
2377.006	4	42056.89		2356.226	3	42427.77	21148 _{3/2} ° — 63576 _{5/2} °
2376.935	4	42058.15	21535 _{9/2} ° — 63593 _{9/2} °	2356.084	4	42430.33	26095 _{11/2} ° — 68525 _{11/2}
2376.555	3	42064.87	24788 _{9/2} ° — 66852 _{7/2} °	2355.261	2	42445.15	
"			60419 _{11/2} ° — 102484 _{9/2}	2355.042	3	42449.10	35863 _{3/2} ° — 78312 _{7/2} °
2376.103	8	42072.88	21148 _{3/2} ° — 63221 _{3/2} °	2354.942	6 w	42450.90	58174 _{9/2} ° — 100625 _{11/2}
2376.023	4 w	42074.29	24250 _{3/2} ° — 66324 _{11/2} °	2354.902	5 w	42451.62	
2375.827	5	42077.76	23844 _{9/2} ° — 65922 _{11/2} °	2354.420	4	42460.31	62558 _{11/2} ° — 105019 _{13/2}
2375.591	5	42081.94	27604 _{9/2} ° — 69686 _{9/2} °	2354.318	3	42462.15	36670 _{11/2} ° — 79136 _{13/2} °
2374.414	6	42102.80	18063 _{9/2} ° — 60166 _{9/2} °	2354.128	2	42465.58	
2374.014	4	42109.89	62678 _{13/2} ° — 104788 _{11/2}	2353.801	3	42471.48	
2373.594	4	42117.35		2353.697	9 w	42473.36	29263 _{13/2} ° — 71736 _{11/2}
2373.255	7	42123.36	22277 _{3/2} ° — 64401 _{5/2} °	2353.341	4	42479.78	21755 _{11/2} ° — 64235 _{9/2} °
2372.129	9	42143.35	29835 _{9/2} ° — 71978 _{7/2} °	2353.232	4 w	42481.75	24461 _{5/2} ° — 66943 _{5/2} °
2372.038	4	42144.97		2352.550	5 w	42494.06	36642 _{13/2} ° — 79136 _{13/2}
2371.930	2	42146.89	58174 _{9/2} ° — 100321 _{9/2}	2352.195	3 w	42500.47	28885 _{9/2} ° — 71385 _{7/2} °
2371.494	3	42154.64	22080 _{7/2} ° — 64235 _{9/2} °	2350.055	9	42539.17	17627 _{9/2} ° — 60166 _{9/2}
2371.337	9	42157.43	21611 _{5/2} ° — 63768 _{7/2} °	2349.631	3	42546.85	
"			21418 _{5/2} ° — 63576 _{5/2} °	2348.786	4 w	42562.15	60419 _{11/2} ° — 102981 _{13/2}
2371.027	7	42162.94		2348.664	2	42564.36	
2370.169	4	42178.20	18241 _{11/2} ° — 60419 _{11/2}	2347.341	2	42588.35	
2370.024	6	42180.78		2346.705	5 w	42599.89	28936 _{3/2} ° — 71536 _{5/2}
2369.861	6	42183.68		2345.886	2	42614.77	58174 _{9/2} ° — 100788 _{7/2}
2369.494	2	42190.22	19872 _{7/2} ° — 62062 _{9/2} °	2345.793	3	42616.45	24250 _{3/2} ° — 66867 _{7/2}
2369.317	2	42193.37		2345.001	4	42630.85	58158 _{7/2} ° — 100788 _{7/2}
2369.081	10	42197.57	60419 _{11/2} ° — 102617 _{11/2}	2344.757	3	42635.28	
2368.776	10	42203.00	38785 _{15/2} ° — 80988 _{13/2} °	2344.472	3	42640.47	
2368.585	6	42206.41	25033 _{9/2} ° — 67240 _{7/2} °	2343.172	5 w	42664.12	
2368.371	5	42210.22	24470 _{7/2} ° — 66681 _{5/2} °	2342.382	1	42678.51	
2368.247	6	42212.43		2341.679	2	42691.32	26446 _{7/2} ° — 69138 _{9/2}
2367.824	5	42219.97	20315 _{9/2} ° — 62535 _{9/2} °	2341.278	4	42698.63	
"			24461 _{5/2} ° — 66681 _{5/2} °	2340.619	2	42710.65	29267 _{5/2} ° — 71978 _{7/2}
2367.747	1	42221.34		2339.845	3 w	42724.78	
2367.560	4	42224.68		2339.764	7	42726.26	36640 _{7/2} ° — 79366 _{5/2}

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
2339.676	9	42727.86	18990 _{7/2} — 61717 _{5/2} 20848 _{5/2} — 63576 _{5/2}	2320.223	3	43086.07	24309 _{5/2} — 67395 _{5/2}
2339.370	1	42733.45		2320.119	3	43088.00	
2339.201	3	42736.54	22080 _{7/2} — 64817 _{5/2}	2319.403	10 w	43101.30	21755 _{11/2} — 64857 _{9/2}
2338.927	2	42741.55		2319.290	3 w	43103.40	30505 _{11/2} — 73609 _{11/2}
2338.605	3	42747.43		2319.153	1	43105.95	
2338.415	1	42750.90		2318.973	10	43109.29	21755 _{11/2} — 64865 _{11/2}
2338.185	3	42755.11		2318.816	10	43112.21	15045 _{5/2} — 58158 _{5/2}
2337.472	9	42768.15	22527 _{7/2} — 65295 _{5/2}	2318.640	10	43115.48	18241 _{11/2} — 61357 _{9/2}
2337.406	9	42769.36	24470 _{7/2} — 67240 _{7/2}	2318.364	10	43120.61	32288 _{3/2} — 75409 _{3/2}
2337.295	2	42771.39	62678 _{13/2} — 105450 _{11/2}	2318.153	10	43124.54	
2337.059	2	42775.71		2318.064	5	43126.20	23175 _{13/2} — 66301 _{15/2}
2336.921	2	42778.23	62240 _{11/2} — 105019 _{13/2}	2317.623	5	43134.40	25409 _{7/2} — 68544 _{9/2}
2336.131	10 w	42792.70	17627 _{9/2} — 60419 _{11/2}	2317.199	9	43142.29	60166 _{5/2} — 103308 _{7/2}
2335.977	2	42795.52		2317.074	1	43144.62	24250 _{3/2} — 67395 _{5/2}
2335.873	6	42797.42	35024 _{7/2} — 77822 _{5/2}	2316.881	7	43148.21	23532 _{3/2} — 66681 _{5/2}
2334.674	1 c	42819.40		2316.644	1	43152.63	
2334.633	2	42820.15	40205 _{3/2} — 83025 _{3/2}	2315.881	2	43166.84	
2333.726	5	42836.79	25033 _{9/2} — 67870 _{9/2}	2315.774	2	43168.84	60166 _{9/2} — 103335 _{9/2}
2333.561	5	42839.82		2315.455	10 w	43174.78	22747 _{9/2} — 65922 _{11/2}
2333.463	3	42841.62		2315.274	1	43178.16	60166 _{9/2} — 103344 _{11/2}
2332.586	5	42857.73	19700 _{11/2} — 62558 _{11/2}	2314.979	1	43183.66	
2332.476	5	42859.75		2314.757	1	43187.80	
2332.371	5	42861.68		2314.669	1	43189.44	
2332.129	1	42866.12	35828 _{9/2} — 78694 _{11/2}	2314.374	2	43194.95	
2331.830	4	42871.62	28720 _{9/2} — 71592 _{9/2}	2314.178	10	43198.61	19360 _{13/2} — 62558 _{11/2}
2330.766	5	42891.19	24788 _{9/2} — 67679 _{7/2}	2314.056	3	43200.88	
2330.393	6	42898.05	64401 _{5/2} — 107299 _{7/2}	2313.977	3	43202.36	
2329.568	7	42913.25	58158 _{7/2} — 101071 _{5/2}	2313.861	6	43204.52	23844 _{9/2} — 67049 _{9/2}
2329.456	2	42915.31	60419 _{11/2} — 103335 _{9/2}	2313.659	6	43208.30	24470 _{7/2} — 67679 _{5/2}
2329.391	9	42916.51	20315 _{9/2} — 63232 _{7/2}	2313.304	7	43214.93	22080 _{7/2} — 65295 _{7/2}
2329.190	9	42920.21	20848 _{5/2} — 63768 _{7/2}	2313.142	6	43217.95	24461 _{5/2} — 67679 _{7/2}
2329.099	5	42921.89		2313.008	6	43220.46	
2329.048	1	42922.83		2312.892	1	43222.62	
2328.965	6	42924.36	24470 _{7/2} — 67395 _{5/2}	2312.004	6	43239.22	26446 _{7/2} — 69686 _{9/2}
2328.808	6	42927.25	40098 _{5/2} — 83025 _{3/2}	2311.442	10	43249.74	19308 _{11/2} — 62558 _{11/2}
2328.685	7	42929.52		2311.288	10	43252.62	21148 _{3/2} — 64401 _{5/2}
2328.556	10 w	42931.89	19308 _{11/2} — 62240 _{11/2}	2311.172	1 w	43254.79	
2328.440	7	42934.03	24461 _{5/2} — 67395 _{5/2}	2311.014	1	43257.74	28720 _{9/2} — 71978 _{7/2}
2328.076	5	42940.74	21294 _{7/2} — 64235 _{9/2}	2310.766	1	43262.39	
2326.777	1	42964.72	25409 _{7/2} — 68374 _{9/2}	2310.531	4	43266.79	
2326.687	1	42966.38	37197 _{3/2} — 80164 _{3/2}	2310.248	3	43272.09	58174 _{5/2} — 101446 _{7/2}
2326.314	8	42973.27	23175 _{13/2} — 66148 _{13/2}	2310.127	1	43274.35	
2326.197	1 w	42975.43		2309.945	2	43277.76	20315 _{9/2} — 63593 _{9/2}
2326.129	7	42976.68	21238 _{13/2} — 64215 _{13/2}	2309.562	1	43284.94	
2326.073	6	42977.72	19700 _{11/2} — 62678 _{13/2}	2309.386	1	43288.24	58158 _{7/2} — 101446 _{7/2}
2325.830	9	42982.21	21418 _{5/2} — 64401 _{5/2}	2309.230	7	43291.16	23651 _{7/2} — 66943 _{5/2}
2325.736	1 w	42983.95	26446 _{7/2} — 69431 _{7/2}	2309.098	9 w	43293.64	23442 _{11/2} — 66735 _{13/2}
2325.365	4 w	42990.80		"			18063 _{9/2} — 61357 _{9/2}
2325.016	2	42997.26	64857 _{9/2} — 107854 _{9/2}	2308.993	1	43295.60	
2324.807	1	43001.12	27380 _{11/2} — 70381 _{13/2}	2308.813	1	43298.98	
2324.521	6	43006.41		2308.670	5	43301.66	34520 _{5/2} — 77822 _{5/2}
2324.438	7	43007.95	62558 _{11/2} — 105566 _{9/2}	2308.409	10	43306.56	17113 _{13/2} — 60419 _{11/2}
2323.492	1	43025.45	35863 _{3/2} — 78889 _{3/2}	2308.243	2	43309.67	
2323.359	1	43027.92		2308.045	3 w	43313.39	
2323.289	3	43029.21	23651 _{7/2} — 66681 _{5/2}	2308.007	6	43314.10	
2322.525	8	43043.37		2307.909	1	43315.94	
2321.993	6	43053.23		2307.766	10	43318.62	19360 _{13/2} — 62678 _{13/2}
2321.717	5	43058.35	28936 _{3/2} — 71994 _{5/2}	2307.588	10	43321.96	21535 _{9/2} — 64857 _{9/2}
2321.672	2	43059.18	36683 _{1/2} — 79742 _{7/2}	2307.384	6	43325.79	62240 _{11/2} — 105566 _{9/2}
2321.580	5	43060.89	20160 _{3/2} — 63221 _{3/2}	2307.277	2	43327.80	40098 _{5/2} — 83426 _{5/2}
2321.322	1	43065.67		2307.163	2	43329.94	21535 _{9/2} — 64865 _{11/2}
2320.906	2	43073.39	62558 _{11/2} — 105632 _{13/2}	2307.068	1	43331.73	
2320.406	10	43082.67	25409 _{7/2} — 68492 _{7/2}	2306.934	9	43334.24	23532 _{5/2} — 66867 _{3/2}
"			24788 _{9/2} — 67870 _{9/2}	2306.596	3	43340.59	25033 _{9/2} — 68374 _{9/2}
				2305.583	3	43359.63	

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
2305.298	1	43364.99		2289.241	5	43669.13	21148 _{3/2} - 64817 _{5/2}
2305.118	8	43368.38	21611 _{5/2} - 64979 _{7/2}	2288.489	2 w	43683.48	
2305.046	8	43369.73	19308 _{1/2} - 62678 _{3/2}	2288.425	5	43684.70	21294 _{7/2} - 64979 _{7/2}
2304.408	2	43381.74	22527 _{7/2} - 65909 _{5/2}	"			21611 _{5/2} - 65295 _{7/2}
2304.201	6	43385.64	60419 _{1/2} - 103805 _{3/2}	2288.131	9	43690.32	36670 _{11/2} - 80360 _{11/2}
2303.869	7	43391.89	25409 _{7/2} - 68801 _{7/2}	2287.795	1	43696.73	
2303.763	9 w	43393.88	18211 _{5/2} - 61605 _{5/2}	2287.611	3	43700.25	37197 _{3/2} - 80897 _{3/2}
2303.668	6 w	43395.67	23844 _{9/2} - 67240 _{7/2}	2287.502	2	43702.33	64857 _{9/2} - 108559 _{11/2}
2303.586	5 w	43397.22	23651 _{7/2} - 67049 _{9/2}	2287.414	5	43704.01	
2303.510	6	43398.65	21418 _{5/2} - 64817 _{5/2}	2287.230	1	43707.52	23532 _{5/2} - 67240 _{7/2}
2303.450	2 w	43399.78	24470 _{7/2} - 67870 _{9/2}	2286.841	8	43714.96	24250 _{3/2} - 67965 _{3/2}
2303.121	7	43405.98	41023 _{7/2} - 84430 _{7/2}	2286.641	7	43718.78	36642 _{13/2} - 80360 _{11/2}
2303.042	1	43407.47	22527 _{7/2} - 65935 _{7/2}	2286.529	7	43720.92	19872 _{7/2} - 63593 _{9/2}
2302.954	5 w	43409.13		2286.131	6	43728.53	25409 _{7/2} - 69138 _{9/2}
2302.899	5 w	43410.16	23532 _{5/2} - 66943 _{5/2}	2285.682	1	43737.12	39870 _{9/2} - 83607 _{11/2}
2302.596	7	43415.88	20160 _{3/2} - 63576 _{5/2}	2285.495	1	43740.70	
2302.537	1	43416.99		2285.348	6	43743.52	23651 _{7/2} - 67395 _{5/2}
2302.360	1	43420.33		2284.937	1	43751.38	35137 _{3/2} - 78889 _{3/2}
2302.230	1	43422.78		2284.615	10 w	43757.55	18921 _{15/2} - 62678 _{3/2}
2301.084	9 w	43444.40	21535 _{9/2} - 64979 _{7/2}	2284.078	7	43767.84	25033 _{9/2} - 68801 _{7/2}
2300.627	9 w	43453.03	20315 _{9/2} - 63768 _{5/2}	2281.542	9	43816.48	23050 _{3/2} - 66867 _{3/2}
2300.337	4	43458.51	25033 _{9/2} - 68492 _{7/2}	2281.300	7	43821.13	18241 _{11/2} - 62062 _{9/2}
2299.775	1	43469.13		2280.920	1	43828.43	22080 _{7/2} - 65909 _{7/2}
2299.600	1	43472.43		2280.598	6	43834.62	23844 _{9/2} - 67679 _{7/2}
2299.481	6	43474.68		2280.153	1	43843.17	
2299.162	1	43480.72		2279.706	1	43851.77	
2298.939	6	43484.93	37919 _{7/2} - 81404 _{5/2}	2279.574	2	43854.30	22080 _{7/2} - 65935 _{7/2}
2298.805	6	43487.47		2279.417	1	43857.32	
2298.583	6	43491.67	25033 _{9/2} - 68525 _{11/2}	2279.237	7	43860.79	24470 _{7/2} - 68331 _{7/2}
2298.505	8 w	43493.14		2279.153	7	43862.40	23532 _{5/2} - 67395 _{5/2}
2298.352	1	43496.04	25934 _{5/2} - 69431 _{5/2}	2278.736	6	43870.43	24461 _{5/2} - 68331 _{7/2}
2297.920	3	43504.21	24461 _{5/2} - 67965 _{3/2}	2278.536	7 w	43874.28	39732 _{11/2} - 83607 _{11/2}
2297.815	8	43506.20	18211 _{5/2} - 61717 _{5/2}	2278.307	6	43878.69	35863 _{3/2} - 79742 _{1/2}
2297.599	5	43510.29	25033 _{9/2} - 68544 _{9/2}	2278.095	1	43882.77	
2297.522	8	43511.75	36652 _{5/2} - 80164 _{3/2}	2277.933	1	43885.89	37011 _{5/2} - 80897 _{3/2}
2297.409	1	43513.89		2277.594	5	43892.43	19700 _{11/2} - 63593 _{9/2}
2297.368	1	43514.67		"			23050 _{3/2} - 66943 _{5/2}
2296.541	2	43530.34	63768 _{5/2} - 107299 _{7/2}	2277.400	5	43896.16	19872 _{7/2} - 63768 _{7/2}
2295.856	4	43543.32	29835 _{9/2} - 73378 _{7/2}	2277.015	8	43903.58	24470 _{7/2} - 68374 _{9/2}
2295.365	7	43552.64	20848 _{5/2} - 64401 _{5/2}	2276.920	4	43905.42	39120 _{3/2} - 83025 _{3/2}
2294.938	9	43560.74	21418 _{5/2} - 64979 _{7/2}	2276.547	1	43912.61	
"			23175 _{13/2} - 66735 _{3/2}	2276.166	4	43919.96	20315 _{9/2} - 64235 _{9/2}
2294.858	8	43562.26	21294 _{7/2} - 64857 _{9/2}	2275.913	1	43924.84	
2294.730	8	43564.69		2275.093	3	43940.67	
2294.601	9 w	43567.13	35828 _{9/2} - 79395 _{5/2}	2274.952	1	43943.39	34520 _{5/2} - 78463 _{7/2}
2294.511	8	43568.84	25409 _{7/2} - 68978 _{5/2}	2274.271	5	43956.55	23442 _{11/2} - 67398 _{9/2}
2294.400	1	43570.95		2273.825	9 w	43965.17	41026 _{17/2} - 84992 _{15/2}
2294.268	1	43573.46		2273.554	6	43970.41	39732 _{11/2} - 83703 _{13/2}
2294.063	5	43577.35	25409 _{7/2} - 68987 _{7/2}	2273.348	1	43974.40	
2293.576	7	43586.60	24788 _{9/2} - 68374 _{9/2}	2273.191	9	43977.43	39725 _{13/2} - 83703 _{13/2}
2293.480	1	43588.43	23651 _{7/2} - 67240 _{7/2}	2273.129	1	43978.63	17627 _{9/2} - 61605 _{7/2}
2293.344	1	43591.01	26095 _{11/2} - 69686 _{9/2}	2272.642	9	43988.06	27604 _{9/2} - 71592 _{9/2}
2293.157	1	43594.57		2272.063	9	43999.26	18063 _{9/2} - 62062 _{9/2}
2292.907	8	43599.32	14558 _{9/2} - 58158 _{5/2}	"			18241 _{11/2} - 62240 _{9/2}
2292.558	8 w	43605.96	31803 _{1/2} - 75409 _{3/2}	2271.977	6	44000.93	21294 _{7/2} - 65295 _{7/2}
2292.508	8 w	43606.91	23442 _{11/2} - 67049 _{9/2}	2271.851	1	44003.37	
2292.062	8	43615.39	14558 _{9/2} - 58174 _{9/2}	2271.504	9	44010.09	
2291.773	1	43620.89		2270.866	8	44022.46	24309 _{5/2} - 68331 _{7/2}
2291.263	1 w	43630.60	23050 _{3/2} - 66681 _{5/2}	2270.677	9	44026.12	23844 _{9/2} - 67870 _{9/2}
2291.199	5	43631.82	22277 _{3/2} - 65909 _{5/2}	2270.617	8 w	44027.28	23651 _{7/2} - 67679 _{7/2}
2290.727	1	43640.81	27380 _{11/2} - 71021 _{9/2}	2270.467	9	44030.19	16135 _{7/2} - 60166 _{9/2}
2290.396	1	43647.11		2270.231	1	44034.77	
2290.241	9	43650.07	16516 _{7/2} - 60166 _{9/2}	2269.597	1	44047.07	
2290.007	5	43654.53		2268.249	1	44073.24	24470 _{7/2} - 68544 _{9/2}
2289.914	5	43656.30	24309 _{5/2} - 67965 _{3/2}	2268.139	1	44075.38	

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
2267.848	5	44081.03		2248.830	2	44453.79	27138 _{7/2} — 71592 _{9/2} ^o
2267.703	5	44083.85	27452 _{3/2} — 71536 _{5/2} ^o	2248.677	8	44456.81	19360 _{13/2} — 63816 _{11/2} ^o
2267.609	1	44085.68		2247.707	1	44475.99	38549 _{1/2} — 83025 _{3/2} ^o
2267.307	1	44091.55		2247.144	1	44487.13	23844 _{9/2} — 68331 _{7/2} ^o
2267.213	1	44093.38		2247.003	5	44489.93	
2267.127	1	44095.05		2246.866	7 w	44492.64	22747 _{9/2} — 67240 _{7/2} ^o
2266.645	8	44104.43	25033 _{9/2} — 69138 _{9/2} ^o	2246.793	1 w	44494.08	
2266.332	1	44110.52	29267 _{5/2} — 73378 _{7/2} ^o	2246.733	2	44495.27	18063 _{9/2} — 62558 _{11/2} ^o
2266.140	5	44114.25	34198 _{1/2} — 78312 _{7/2} ^o	2246.093	8	44507.95	19308 _{11/2} — 63816 _{11/2} ^o
2266.050	5	44116.01	19700 _{11/2} — 63816 _{11/2} ^o	2246.003	1	44509.73	
2265.694	5	44122.94		2245.761	7	44514.53	19700 _{11/2} — 64215 _{13/2} ^o
2265.223	6	44132.11	27604 _{9/2} — 71736 _{11/2} ^o	2245.672	2	44516.29	
2265.124	1	44134.04		2245.625	1	44517.22	24461 _{5/2} — 68978 _{5/2} ^o
2264.492	6	44146.36	23532 _{3/2} — 67679 _{7/2} ^o	2245.190	5	44525.85	24461 _{5/2} — 68987 _{7/2} ^o
2264.024	1	44155.48		2245.055	3	44528.53	19872 _{7/2} — 64401 _{5/2} ^o
2263.457	2	44166.54	21755 _{11/2} — 65922 _{11/2} ^o	2244.985	6	44529.91	23844 _{9/2} — 68374 _{9/2} ^o
2262.894	8	44177.53	18063 _{9/2} — 62240 _{11/2} ^o	2244.744	1	44534.69	19700 _{11/2} — 64235 _{9/2} ^o
2262.362	1	44187.92		2244.453	7 w	44540.47	39870 _{9/2} — 84410 _{9/2} ^o
2262.230	6	44190.49		2244.405	7 w	44541.42	20315 _{9/2} — 64857 _{9/2} ^o
2261.530	6	44204.17	40205 _{3/2} — 84409 _{3/2} ^o	2243.485	1 w	44559.68	39870 _{9/2} — 84430 _{7/2} ^o
2261.456	6	44205.62		2242.934	1 w	44570.63	
2261.126	9	44212.07	27380 _{11/2} — 71592 _{9/2} ^o	2242.690	1	44575.48	
2261.004	7	44214.45		2242.456	9 w	44580.13	
2260.779	1	44218.85	23651 _{7/2} — 67870 _{9/2} ^o	2242.415	4 w	44580.94	
2260.658	1	44221.22		2242.151	10 w	44586.19	18990 _{7/2} — 63576 _{5/2} ^o
2260.475	1	44224.80		2241.989	6	44589.41	22277 _{3/2} — 66867 _{3/2} ^o
2259.670	3	44240.55		2241.943	8	44590.33	23647 _{13/2} — 68238 _{11/2} ^o
2259.592	2	44242.08	18990 _{7/2} — 63232 _{7/2} ^o	2241.710	1	44594.96	
2259.415	1	44245.55	36652 _{5/2} — 80897 _{3/2} ^o	2241.542	1	44598.31	
2259.337	2	44247.07	27138 _{7/2} — 71385 _{7/2} ^o	2241.449	3	44600.16	22080 _{7/2} — 66681 _{5/2} ^o
2258.768	2	44258.22		2241.411	3 w	44600.91	
2257.546	4	44282.17	41023 _{7/2} — 85306 _{5/2} ^o	2241.228	3	44604.55	35137 _{3/2} — 79742 _{1/2} ^o
2257.430	8	44284.45	19308 _{11/2} — 63593 _{9/2} ^o	2240.989	2	44609.31	
2257.342	5 w	44286.17	26095 _{11/2} — 70381 _{13/2} ^o	2240.763	6	44613.81	17627 _{9/2} — 62240 _{11/2} ^o
2257.194	1	44289.08		2240.622	5	44616.62	
2256.723	1	44298.32	21611 _{5/2} — 65909 _{5/2} ^o	2239.648	1	44636.02	
2256.621	5	44300.32	35863 _{3/2} — 80164 _{3/2} ^o	2239.415	10	44640.66	15525 _{11/2} — 60166 _{9/2} ^o
2256.564	5	44301.44	22747 _{9/2} — 67049 _{9/2} ^o	2239.297	2	44643.01	24788 _{9/2} — 69431 _{7/2} ^o
2256.337	1	44305.90		2239.183	1	44645.28	
2256.160	1	44309.37		2239.057	10	44647.80	23844 _{9/2} — 68492 _{7/2} ^o
2255.919	1	44314.11		2238.897	2	44650.99	
2255.763	8 w	44317.17	18241 _{11/2} — 62558 _{11/2} ^o	2238.819	1 w	44652.54	
2255.712	8 w	44318.17	36670 _{11/2} — 80988 _{3/2} ^o	2238.560	6 w	44657.71	28720 _{9/2} — 73378 _{7/2} ^o
2255.414	2	44324.03	21611 _{5/2} — 65935 _{7/2} ^o	2238.081	6	44667.27	
2255.069	6	44330.81	24470 _{7/2} — 68801 _{7/2} ^o	2237.976	8	44669.36	24309 _{5/2} — 68978 _{5/2} ^o
2255.038	7	44331.42	38694 _{3/2} — 83025 _{3/2} ^o	2237.566	1	44677.55	39732 _{11/2} — 84410 _{9/2} ^o
2254.494	1	44342.11	35024 _{7/2} — 79366 _{5/2} ^o	2237.497	1	44678.92	
2254.364	1	44344.67	23050 _{3/2} — 67395 _{5/2} ^o	2237.399	1	44680.88	
2254.263	8	44346.66	36642 _{13/2} — 80988 _{13/2} ^o	2237.260	10 w	44683.66	21238 _{13/2} — 65922 _{11/2} ^o
2253.783	1	44356.10	27380 _{11/2} — 71736 _{11/2} ^o	2236.926	1	44690.33	
2253.427	2	44363.11	19872 _{7/2} — 64235 _{9/2} ^o	2236.619	3	44696.46	
2253.213	5	44367.32		2236.463	7	44699.58	23844 _{9/2} — 68544 _{9/2} ^o
2253.137	5	44368.82	34520 _{5/2} — 78889 _{5/2} ^o	2236.027	1	44708.29	
2253.024	5	44371.04	35024 _{7/2} — 79395 _{7/2} ^o	2235.815	1	44712.53	
2252.860	7	44374.27	27604 _{9/2} — 71978 _{7/2} ^o	2235.179	1	44725.25	
2252.347	8	44384.38	16135 _{7/2} — 60520 _{5/2} ^o	2235.023	6	44728.37	21238 _{13/2} — 65967 _{13/2} ^o
2252.204	6	44387.20	21535 _{9/2} — 65922 _{11/2} ^o	2234.737	1	44734.10	
2251.549	9	44400.11	21535 _{9/2} — 65935 _{7/2} ^o	2234.400	6	44740.84	
2251.445	8	44402.16	25979 _{15/2} — 70381 _{13/2} ^o	2233.835	2	44752.16	36652 _{5/2} — 81404 _{5/2} ^o
2250.108	9	44428.54	23442 _{11/2} — 67870 _{5/2} ^o	2233.238	6	44764.12	36640 _{7/2} — 81404 _{5/2} ^o
2249.744	7	44435.73	17627 _{9/2} — 62062 _{9/2} ^o	2232.516	6 w	44778.60	18990 _{7/2} — 63768 _{7/2} ^o
2249.672	8	44437.15	18241 _{11/2} — 62678 _{3/2} ^o	2232.217	2	44784.59	
2249.147	8	44447.52	20848 _{5/2} — 65295 _{7/2} ^o	2231.906	7	44790.83	19360 _{13/2} — 64150 _{11/2} ^o
2249.018	8	44450.07	19700 _{11/2} — 64150 _{11/2} ^o	2231.503	7	44798.92	23532 _{5/2} — 68331 _{7/2} ^o
2248.913	1	44452.14		2231.211	6	44804.78	

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
2231.045	1	44808.12		2213.693	1	45159.31	22080 _{7/2} — 67240 _{7/2}
2230.815	1	44812.74		2213.229	1	45168.78	28936 _{3/2} — 74105 _{5/2}
2230.582	6	44817.42		"			18063 _{9/2} — 63232 _{7/2}
2230.348	10 w	44822.12	13352 _{11/2} — 58174 _{9/2}	2212.688	1	45179.82	
2230.117	6	44826.76		2211.612	6	45201.80	16516 _{7/2} — 61717 _{5/2}
2229.887	1	44831.39		2211.332	1	45207.52	40098 _{3/2} — 85306 _{5/2}
2229.417	1 w	44840.84	16516 _{7/2} — 61357 _{9/2}	2209.963	1	45235.52	
2229.360	6	44841.98	19308 _{11/2} — 64150 _{11/2}	2208.939	6	45256.49	30505 _{11/2} — 75762 _{9/2}
2228.693	7 w	44855.40	19360 _{13/2} — 64215 _{13/2}	2208.655	3	45262.31	21418 _{5/2} — 66681 _{5/2}
2228.647	6 w	44856.33	27138 _{7/2} — 71994 _{5/2}	2208.589	1	45263.66	
2228.358	6	44862.14	22080 _{7/2} — 66943 _{5/2}	2208.472	1	45266.06	39725 _{15/2} — 84992 _{15/2}
2227.910	1	44871.16	22527 _{7/2} — 67398 _{9/2}	2208.343	2	45268.70	
2227.578	7	44877.85	23647 _{13/2} — 68525 _{11/2}	2207.138	5 w	45293.42	21755 _{11/2} — 67049 _{9/2}
2227.201	3	44885.45	28720 _{9/2} — 73606 _{9/2}	2207.097	9	45294.26	18921 _{15/2} — 64215 _{13/2}
2226.765	7	44894.23	15525 _{11/2} — 60419 _{11/2}	2206.860	1	45299.12	
2226.565	6	44898.27	24788 _{9/2} — 69686 _{9/2}	2206.738	1	45301.63	
2226.191	7	44905.81	38701 _{13/2} — 83607 _{11/2}	2206.512	8 w	45306.27	14859 _{11/2} — 60166 _{9/2}
2226.157	3 w	44906.49	19308 _{11/2} — 64215 _{13/2}	2206.259	10 w	45311.46	12846 _{9/2} — 58158 _{7/2}
"			30733 _{11/2} — 75640 _{11/2}	2206.115	6	45314.42	22080 _{7/2} — 67395 _{5/2}
2226.046	6	44908.73		2206.019	1	45316.39	
2226.000	8 w	44909.66	21238 _{13/2} — 66148 _{13/2}	2205.952	2	45317.77	22080 _{7/2} — 67398 _{9/2}
2225.742	6	44914.87	23050 _{3/2} — 67965 _{3/2}	"			21535 _{9/2} — 66852 _{7/2}
2225.647	1 w	44916.78		2205.713	2	45322.67	
2225.601	1	44917.71	38785 _{15/2} — 83703 _{13/2}	2205.478	10 w	45327.50	12846 _{9/2} — 58174 _{9/2}
2225.153	7	44926.75	19308 _{11/2} — 64235 _{9/2}	2205.265	2 w	45331.88	21611 _{5/2} — 66943 _{5/2}
2224.909	7 w	44931.68	17627 _{9/2} — 62558 _{11/2}	2205.116	1	45334.94	
2224.878	6 w	44932.31	23442 _{11/2} — 68374 _{9/2}	2204.357	8	45350.55	23175 _{13/2} — 68525 _{9/2}
2224.650	2	44936.91		2204.297	8	45351.79	18241 _{11/2} — 63593 _{9/2}
2224.241	7	44945.17	19872 _{7/2} — 64817 _{5/2}	2203.678	5	45364.52	18211 _{5/2} — 63576 _{5/2}
2223.653	5	44957.06	23844 _{9/2} — 68801 _{7/2}	2203.507	1	45368.04	
2223.503	6 w	44960.09	24470 _{7/2} — 69431 _{7/2}	2202.620	3	45386.31	39024 _{9/2} — 84410 _{5/2}
2223.466	5 w	44960.84		"			21294 _{7/2} — 66681 _{5/2}
2223.234	10 w	44965.53	15454 _{13/2} — 60419 _{11/2}	2201.678	7 w	45405.73	39024 _{9/2} — 84430 _{7/2}
2223.103	5	44968.18	22080 _{7/2} — 67049 _{9/2}	2199.617	5	45448.27	21418 _{5/2} — 66867 _{3/2}
2223.001	5	44970.24		2197.772	3	45486.42	23651 _{7/2} — 69138 _{9/2}
2222.738	1	44975.56		2197.478	1	45492.50	
2222.506	8 w	44980.26	20315 _{9/2} — 65295 _{9/2}	2197.253	10 w	45497.16	21238 _{13/2} — 66735 _{3/2}
2222.288	4	44984.67	19872 _{7/2} — 64857 _{9/2}	"			26095 _{11/2} — 71592 _{9/2}
2221.439	7 w	45001.86	38701 _{13/2} — 83703 _{13/2}	2196.775	7	45507.06	37919 _{7/2} — 83426 _{9/2}
2221.062	1	45009.50	18211 _{5/2} — 63221 _{3/2}	2196.436	2	45514.08	21535 _{9/2} — 67049 _{9/2}
2220.425	1	45022.41		2195.667	9 w	45530.02	18063 _{9/2} — 63593 _{9/2}
2219.062	1	45050.06		2195.531	1	45532.84	
2218.522	1	45061.02	20848 _{5/2} — 65909 _{5/2}	2194.868	1	45546.59	
2218.433	6 w	45062.83		2194.401	7 w	45556.29	19308 _{11/2} — 64865 _{11/2}
2217.424	9	45083.33	23442 _{11/2} — 68525 _{11/2}	2194.370	6 w	45556.93	18211 _{5/2} — 63768 _{7/2}
2217.356	1	45084.72		2194.315	1	45558.07	21294 _{7/2} — 66852 _{7/2}
2217.192	1	45088.05		2194.237	10 w	45559.69	14859 _{11/2} — 60419 _{9/2}
2217.121	10 w	45089.49	16516 _{7/2} — 61605 _{7/2}	2193.955	8 w	45565.55	17113 _{13/2} — 62678 _{13/2}
"			26446 _{7/2} — 71536 _{5/2}	2193.836	1	45568.02	
2216.890	1	45094.19		2193.480	8	45575.41	18241 _{11/2} — 63816 _{11/2}
2216.769	1	45096.65		2192.229	6	45601.42	25934 _{5/2} — 71536 _{5/2}
2216.508	8 w	45101.96	23442 _{11/2} — 68544 _{9/2}	2192.057	1	45605.00	
2216.285	1	45106.50		2191.101	2	45624.89	
2215.740	1	45117.60	22277 _{3/2} — 67395 _{5/2}	2191.005	1	45626.89	22747 _{9/2} — 68374 _{9/2}
2215.479	1	45122.91		2190.893	1	45629.22	21611 _{5/2} — 67240 _{7/2}
2215.248	10 w	45127.61	17113 _{13/2} — 62240 _{11/2}	2190.316	8 w	45641.24	26095 _{11/2} — 71736 _{11/2}
2215.018	1	45132.30		2189.903	5	45649.85	
2214.679	1	45139.21		2187.687	5	45696.08	23442 _{11/2} — 69138 _{9/2}
2214.519	2	45142.47	23844 _{9/2} — 68987 _{7/2}	2187.249	6 w	45705.23	21535 _{9/2} — 67240 _{7/2}
2214.448	10 w	45143.92	17534 _{15/2} — 62678 _{13/2}	"			18063 _{9/2} — 63768 _{7/2}
2214.379	2	45145.32	26446 _{7/2} — 71592 _{9/2}	2186.602	1	45718.76	
2214.217	1	45148.62		2184.903	4	45754.30	21294 _{7/2} — 67049 _{9/2}
2214.164	2	45149.71	23651 _{7/2} — 68801 _{7/2}	2184.590	6 w	45760.86	
2214.079	2	45151.44	22527 _{7/2} — 67679 _{7/2}	2181.408	6	45827.60	
2213.838	5	45156.35		2181.217	9 w	45831.61	15525 _{11/2} — 61357 _{9/2}

TABLE 1. Spectral lines of Pr III in the wavelength range of 2107 to 10716 Å—Continued

Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification	Wavelength (Å)	Intensity	Wavenumber (cm ⁻¹)	Classification
2181.159	1	45832.83	20848 _{5/2} - 66681 _{5/2} ^o	2146.982	5	46562.35	19360 _{13/2} - 65922 _{11/2} ^o
2180.799	1	45840.40		2145.234	1	46600.28	32288 _{3/2} - 78889 _{3/2} ^o
2179.818	1	45861.03		2143.094	1	46646.81	
2179.684	1 _w	45863.85		2142.870	9 _w	46651.69	19649 _{7/2} - 66301 _{5/2} ^o
2177.517	6	45909.48	18241 _{11/2} - 64150 _{11/2} ^o	2142.570	1	46658.22	19308 _{11/2} - 65967 _{13/2} ^o
2176.676	3	45927.22	29835 _{9/2} - 75762 _{9/2} ^o	2141.933	7 _w	46672.09	15045 _{5/2} - 61717 _{5/2} ^o
2175.805	1	45945.60		2141.539	9 _w	46680.68	17534 _{15/2} - 64215 _{3/2} ^o
2174.893	1	45964.87		2140.611	1	46700.91	22277 _{3/2} - 68978 _{5/2} ^o
2174.820	1	45966.41	17627 _{9/2} - 63593 _{9/2} ^o	2140.484	1	46703.69	17113 _{13/2} - 63816 _{11/2} ^o
2173.500	5	45994.32		2139.950	3	46715.34	15525 _{11/2} - 62240 _{11/2} ^o
2172.342	2	46018.84		2139.915	1	46716.10	
2172.186	1	46022.14		2136.688	7	46786.65	15454 _{13/2} - 62240 _{11/2} ^o
2172.094	1 _w	46024.09		2136.608	7	46788.40	21755 _{11/2} - 68544 _{5/2} ^o
2171.173	4	46043.61	25934 _{5/2} - 71978 _{7/2} ^o	2136.157	6	46798.28	14558 _{9/2} - 61357 _{9/2} ^o
2170.680	3	46054.07	22747 _{9/2} - 68801 _{7/2} ^o	2135.942	2	46802.99	23175 _{13/2} - 69978 _{11/2} ^o
2169.098	1	46087.65	18063 _{9/2} - 64150 _{11/2} ^o	2130.646	1	46919.31	18990 _{7/2} - 65909 _{5/2} ^o
2167.810	4	46115.03		"		28720 _{9/2} - 75640 _{11/2} ^o	
2166.440	2	46144.19		2130.398	3	46924.77	20315 _{9/2} - 67240 _{7/2} ^o
2165.562	1	46162.90		2125.485	4	47033.22	15525 _{11/2} - 62558 _{11/2} ^o
2165.114	5	46172.45		2124.868	4	47046.88	14558 _{9/2} - 61605 _{7/2} ^o
2163.530	3	46206.25	38785 _{15/2} - 84992 _{15/2} ^o	2122.368	4	47102.29	17113 _{13/2} - 64215 _{13/2} ^o
2162.814	8 _w	46221.55	19700 _{11/2} - 65922 _{11/2} ^o	2122.269	2	47104.49	15454 _{13/2} - 62558 _{11/2} ^o
2162.611	2 _w	46225.88	27380 _{11/2} - 73606 _{9/2} ^o	2116.519	1	47232.44	18063 _{9/2} - 65295 _{7/2} ^o
2162.252	8	46233.56		2115.630	1	47252.29	
2155.562	5	46377.03	29263 _{13/2} - 75640 _{11/2} ^o	2114.954	1	47267.39	
2154.932	3	46390.59	22747 _{9/2} - 69138 _{9/2} ^o	2112.791	1	47315.77	
2152.291	4	46447.51	19700 _{11/2} - 66148 _{13/2} ^o	2111.340	1	47348.29	19700 _{11/2} - 67049 _{9/2} ^o
2149.997	4	46497.06	14859 _{11/2} - 61357 _{9/2} ^o	2109.931	6	47379.90	18921 _{15/2} - 66301 _{15/2} ^o
2148.203	1	46535.89	23442 _{11/2} - 69978 _{11/2} ^o	2109.680	1	47385.54	
2148.142	10 _w	46537.21	20315 _{9/2} - 66852 _{7/2} ^o	2107.250	1	47440.17	
2147.164	1	46558.40	25033 _{9/2} - 71592 _{9/2} ^o				

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